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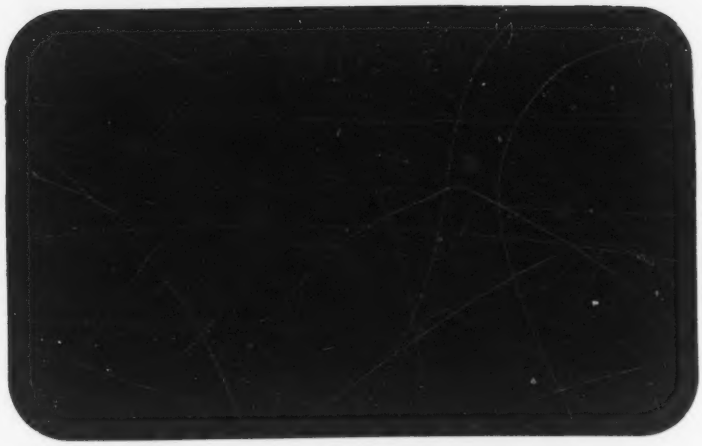

COMMONWEALTH OF MASSACHUSETTS

Division of Employment Security

Michael S. Dukakis, Governor
Evelyn F. Murphy, Secretary, Economic Affairs
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AN OCCUPATIONAL PROFILE OF HOSPITAL EMPLOYMENT IN MASSACHUSETTS 1983

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May, 1985

FOREWORD

The Occupational Employment Statistics Program is part of a Federal-State cooperative program involving State Employment Security Agencies (SESA's) as well as the Employment and Training Administration (ETA) and the Bureau of Labor Statistics (BLS). It was designed to meet the needs of economists, employment specialists, educators, counselors and others for current data on employment by occupation and industry.

This publication is the twentieth in a series on Current Occupational Profiles of Massachusetts Industries. The information is used in updating the industry-occupation matrix and as a data base for projecting future employment trends. Copies of all previous survey publications are available for reference in our Research Liabrary.

Our sincere appreciation is extended to the many hospitals who participated in this survey, without whose support this labor market information would not be available, and to the Massachusetts Hospital Association for their endorsement. Acknowledgement for support is also made to the U. S. Department of Labor and in particular to the Bureau of Labor Statistics - both on national and regional levels - for their technical support. We also wish to recognize the contribution of the data processing department, the clerical unit, the reproduction unit and methods and procedures.

HOSPITAL INDUSTRY
(excluding Federal Facilities)

The hospital industry, with April 1983 employment of over 146,000 is one of the largest sectors of the Massachusetts economy. Since our last survey in April 1980 employment has grown by 6.5 percent and is projected to reach nearly 185,000 by 1990. 1/

Of the 187 hospitals (excluding Federal Facilities), 151 are under private ownership and employ nearly 81,000 or 55.5 percent of hospital employment. The average facility employs 770 workers, while 47 hospitals employ over 1,000 workers with an average employment level of 1,895.

The occupational mix of hospital employment is dominated by the professional category, accounting for more than 50 percent of total employment. Within this category, Registered Nurses at 34,840, and Licensed Practical Nurses at 9,380, represent 30 percent of total employment. The next single largest occupation is Physicians and Surgeons with employment at 5,550 or slightly less than four percent. Included within this same professional and technical occupational category are the highly skilled technical occupations that play a large role in hospital care.

While the professional and technical category is the single largest occupational group, the clerical, service and production and maintenance categories coupled together, represent nearly 44 percent of employment. The occupations range from highly skilled to nonskilled.

1/ Massachusetts Employment: Projected Changes 1980 to 1990.

Hospital Employment

The Massachusetts hospital industry is one of the leading employers in the state, employing nearly 146,000 workers in 1983. The national 1983 employment estimate was 4,390,500 workers. Over the four year period 1979-1983, 8,350 workers joined the state's hospital industry, an increase of 6.1 percent. Nationally, over the same time period, 449,300 new workers (11.4 percent) became employed in the hospital industry.

	Massachusetts		United States	
Year	Employment	Year to Year Change	Employment	Year to Year Change
1984	144,200	- 1.2%	4,324,500	- 1.5%
1983	145,900	- 0.7	4,390,500	0.3
1982	146,900	1.6	4,378,600	2.5
1981	144,640	3.2	4,273,200	3.8
1980	140,210	1.9	4,117,600	4.5
1979	137,550	--	3,941,200	--

In recent years, emphasis has been on "cost containment" for health care. In October 1981, a major health insurance provider implemented a restriction on costs for specific health services. Then in October 1982, the state mandated a cap on a hospital's budget allowance, which ultimately resulted in production cuts.

From a current perspective, 1984 shows a significant change for the hospital industry. In brief, legislation passed in April 1983 called for the Federal government to pay for inpatient hospital services not on a fee-for-service basis, as it had traditionally done, but on a fixed-fee basis. Clearly we can see from the employment estimates above, that the effect of this legislation has altered the past performance of the hospital industry. Is the 1984 employment decline solely a one time result of the 1983 legislation or a prediction of things to come? At present it is difficult to estimate the impact it will have on long term hospital employment. However, this is an indication that new incentive payment systems are an evident possibility for other payment providers.

DISTRIBUTION OF EMPLOYMENT BY MAJOR OCCUPATIONAL CATEGORY

RANKED OCCUPATIONAL EMPLOYMENT

1.	Registered Nurses	34,840
2.	Nursing Aides, Orderlies and Attendants	11,520
3.	Licensed Practical Nurses	9,380
4.	Physicians and Surgeons	5,550
5.	Maids and Housekeeping Cleaners	4,620
6.	All Other Secretaries	4,540
7.	Medical and Clinical Laboratory Technologists	3,800
8.	Food Preparation Workers	2,610
9.	All Other Health Professionals, Para-Professionals, and Technicians	2,470
10.	General Office Clerks	2,190

These 10 occupational categories make up 55.5% of total industry employment.

Table
THE OCCUPATIONS MOST FREQUENTLY REPORTED BY
RESPONDING HOSPITALS

Occupation	Percent of Hospitals Reporting Occupations
Registered Nurses	99
Licensed Practical Nurses	98
General Managers & Top Executives	98
Cooks, Institution or Cafeteria	93
Switchboard Operator	91
Medical & Health Service Managers	90
Pharmacists	89
Nursing Aides, Orderlies, & Attendants	89
Financial Managers	85
Maids and Housekeeping Cleaners	84
Dieticians and Nutritionists	84
Social Workers, Medical	83
Stock Clerks, Stockroom and Related	83
Billing Cost and Rate Clerks	82
Housekeeping Supervisors	81
Food Preparation Workers	81
Typists	81
Personal and Labor Managers	80
Physical Therapists	78
Clerical & Administrative Supervisors	78
Payroll and Time Clerks	78
Respiratory Therapists	77
Medical & Clinical Laboratory Technologists	77
Medical Records Technicians	77
Bookkeeping, Accounting, and Accounting Clerks	76
Medical Secretaries	75
Secretaries (except Medical)	75

TABLE
OCCUPATIONS OF EMPLOYEES
HOSPITALS
SIC = 806
REFERENCE DATE APRIL, 1983

OCCUPATIONAL TITLE	EMPLOYMENT		
	NUMBER[1]	PERCENT OF TOTAL	RELATIVE ERROR %
TOTAL INDUSTRY EMPLOYMENT	146,330	100.00	N/A
MANAGERIAL AND ADMINISTRATIVE OCCUPATIONS	5,350	3.66	N/A
FINANCIAL MANAGERS	330	0.23	4
PERSONNEL,TRAINING, AND LABOR RELATIONS MGRS.	230	0.16	5
PURCHASING MANAGERS	140	0.10	4
MARKETING,ADVERTISING,PUBLIC RELATIONS MGRS.	130	0.09	6
ADMINISTRATIVE SERVICES MANAGERS	220	0.15	11
MEDICINE AND HEALTH SERVICES MANAGERS	1,500	1.03	7
FOOD SERVICE AND LODGING MANAGERS	140	0.10	5
GENERAL MANAGERS AND TOP EXECUTIVES	880	0.60	7
ALL OTHER MANAGERS AND ADMINISTRATORS	1,780	1.22	10
PROFESSIONAL PARAPROFESSIONAL TECH OCCUPATION	76,640	52.37	N/A
ACCOUNTANTS AND AUDITORS	380	0.26	6
BUDGET ANALYSTS	90	0.06	7
ALL OTHER FINANCIAL SPECIALISTS	130	0.09	19
PURCH AGENTS EXCEPT WHOLESALE,RETAIL & FARM	130	0.09	5
PERSONNEL, TRAINING, & LABOR RELATIONS SPEC	220	0.15	5
COST ESTIMATORS	10	0.01	N/A
COMPLIANCE OFFICERS & ENFORCEMENT INSPECTORS	40	0.03	14
ALL OTHER MANAGEMENT SUPPORT WORKERS	600	0.41	13
CIVIL ENGINEERS, INCLUDING TRAFFIC	10	0.01	17
ELECTRICAL AND ELECTRONIC ENGINEERS	10	0.01	19
INDUSTRIAL ENGINEERS, EXCEPT SAFETY	20	0.01	14
MECHANICAL ENGINEERS	80	0.05	23
ALL OTHER ENGINEERS	60	0.04	15
ELECTRICAL,ELECTRONIC ENGINEERING TECH & TECH	30	0.02	26
DRAFTERS	70	0.05	37
ALL OTHER ENG & RELATED TECHNICIAN & TECHNOL.	50	0.03	25
CHEMISTS, EXCEPT BIOCHEMISTS	10	0.01	22
BIOLOGICAL SCIENTISTS	210	0.14	21
MEDICAL SCIENTISTS	50	0.03	17
ALL OTHER LIFE SCIENTISTS	90	0.06	39
BIOLOGICAL,AGRIC,FOOD TECH,TECHNOL,EXC.HEALTH	180	0.12	48
CHEMICAL TECHNICIANS & TECHNOL.EXC. HEALTH	60	0.04	31
SYSTEMS ANALYSTS, ELECTRONIC DATA PROCESSING	200	0.14	21
COMPUTER PROGRAMMERS	200	0.14	20
COMPUTER PROGRAMMER AIDES	110	0.08	14

1 - Summed parts may not equal totals because of rounding.
** - Employment less than 10
N/A - Relative Error Not Available

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HOSPITALS
SIC = 806
REFERENCE DATE APRIL, 1983

OCCUPATIONAL TITLE	EMPLOYMENT		
	NUMBER[1]	PERCENT OF TOTAL	RELATIVE ERROR %
STATISTICIANS	10	0.01	20
PSYCHOLOGISTS	360	0.25	12
ALL OTHER SOCIAL SCIENTISTS	10	0.01	35
SOCIAL WORKERS, MEDICAL & PSYCHIATRIC	1,170	0.80	6
SOCIAL WORKERS, EXCEPT MEDICAL & PSYCHIATRIC	220	0.15	15
SOCIAL SERVICE TECHNICIANS	210	0.14	11
CLERGY	120	0.08	7
NURSING INSTRUCTORS	630	0.43	7
TEACHERS & INSTRUCTORS, VOC ED AND TRAINING	150	0.10	20
ALL OTHER TEACHERS AND INSTRUCTORS	240	0.16	14
LIBRARIANS, PROFESSIONAL	110	0.08	5
TECHNICAL ASSISTANTS, LIBRARY	40	0.03	13
PHYSICIANS AND SURGEONS	5,550	3.79	13
DENTISTS	30	0.02	10
OPTOMETRISTS	10	0.01	25
PODIATRISTS	20	0.01	17
RESPIRATORY THERAPISTS	1,570	1.07	4
OCCUPATIONAL THERAPISTS	500	0.34	9
PHYSICAL THERAPISTS	1,090	0.74	6
CORRECTIVE AND MANUAL ARTS THERAPISTS	10	0.01	50
SPEECH PATHOLOGISTS AND AUDIOLOGISTS	320	0.22	9
RECREATIONAL THERAPISTS	240	0.16	14
ALL OTHER THERAPISTS	90	0.06	23
REGISTERED NURSES	34,840	23.81	1
LICENSED PRACTICAL NURSES	9,380	6.41	4
EMERCENCY MEDICAL TECHNICIANS	300	0.21	28
PHYSICIAN'S ASSISTANTS	210	0.14	23
PHARMACISTS	860	0.59	3
DIETITIANS AND NUTRITIONISTS	540	0.37	3
DIETETIC TECHNICIANS	610	0.42	10
MEDICAL AND CLINICAL LABORATORY TECHNOLOGISTS	3,800	2.60	6
MEDICAL AND CLINICAL LABORATORY TECHNICIANS	2,020	1.38	6
DENTAL HYGIENISTS	20	0.01	15
MEDICAL RECORDS TECHNICIANS AND TECHNOLOGISTS	650	0.44	7
NUCLEAR MEDICINE TECHNOLOGISTS	250	0.17	4
RADIOLOGIC TECHNOLOGISTS	1,270	0.87	6
RADIOLOGIC TECHNICIANS	1,200	0.82	7
ELECTROENCEPHALOGRAPH TECHS. & TECHNOLOGISTS	180	0.12	5

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OCCUPATIONS OF EMPLOYEES
HOSPITALS
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REFERENCE DATE APRIL, 1983

OCCUPATIONAL TITLE	EMPLOYMENT		
	NUMBER[1]	PERCENT OF TOTAL	RELATIVE ERROR %
ELECTROCARDIOGRAPH TECHNICIANS & TECHNOLOGIST	700	0.48	4
SURGICAL TECHNICIANS	850	0.58	4
ALL OTHER HEALTH PROF., PARAPROF., & TECHS.	2,470	1.69	12
PUBLIC REL. SPECIALISTS & PUBLICITY WRITERS	80	0.05	7
PHOTOGRAPHERS	30	0.02	12
ALL OTHER PROFESSIONAL, PARAPROF., TECHNICAL	640	0.44	26
SALES AND RELATED OCCUPATIONS	330	0.23	N/A
CASHIERS	290	0.20	6
ALL OTHER SALES AND RELATED WORKERS	40	0.03	33
CLERICAL & ADMINISTRATIVE SUPPORT OCCUPATIONS	23,560	16.10	N/A
SUPERVISOR & MGR/SUPVR-CLERICAL/ADMIN SUPPORT	1,210	0.83	8
LIBRARY ASSISTANTS AND BOOKMOBILE DRIVERS	50	0.03	14
MEDICAL SECRETARIES	1,580	1.08	6
ALL OTHER SECRETARIES	4,540	3.10	5
STENOGRAPHERS	210	0.14	13
RECEPTIONIST AND INFORMATION CLERKS	1,130	0.77	8
TYPISTS	1,990	1.36	7
TYPISTS, WORD PROCESSING EQUIPMENT	50	0.03	17
PERSONNEL CLERKS, EXCEPT PAYROLL, TIMEKEEPING	210	0.14	5
FILE CLERKS	710	0.49	8
ORDER CLERKS-MATERIALS, MERCHANDISE, SERVICE	100	0.07	14
PROCUREMENT CLERKS	120	0.08	7
STATISTICAL CLERKS	140	0.10	12
INTERVIEW CLERKS,EXC PERSONNEL,SOCIAL WELFARE	1,280	0.87	7
BOOKKEEPING, ACCOUNTING, & AUDITING CLERKS	1,010	0.69	13
PAYROLL AND TIMEKEEPING CLERKS	290	0.20	5
BILLING, COST AND RATE CLERKS	1,420	0.97	4
GENERAL OFFICE CLERKS	2,190	1.50	9
BILLING, POSTING, CALCULATING MACH. OPERATORS	90	0.06	19
COMPUTER OPERATORS, EXC. PERIPHERAL EQUIPMENT	170	0.12	8
PERIPHERAL EDP EQUIPMENT OPERATORS	20	0.01	29
DATA ENTRY KEYERS, EXCEPT COMPOSING	500	0.34	5
ALL OTHER OFFICE MACHINE OPERATORS	20	0.01	20
SWITCHBOARD OPERATORS	1,290	0.88	4
DISPATCHERS-POLICE, FIRE, AND AMBULANCE	30	0.02	34
STOCK CLERKS-STOCKROOM,WAREHOUSE STORAGE YARD	720	0.49	4
TRAFFIC, SHIPPING, AND RECEIVING CLERKS	100	0.07	7
ALL OTHER MATERIAL RECORDING, SCHEDULING, ETC	240	0.16	17
ALL OTHER CLERICAL & ADMIN SUPPORT WORKERS	2,150	1.47	8

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OCCUPATIONS OF EMPLOYEES
HOSPITALS
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REFERENCE DATE APRIL, 1983

OCCUPATIONAL TITLE	EMPLOYMENT		
	NUMBER[1]	PERCENT OF TOTAL	RELATIVE ERROR %
SERVICE OCCUPATIONS	34,630	23.67	N/A
HOUSEKEEPERS	1,030	0.70	10
ALL OTHER SERVICE SUPERVISORS & MGR/SUPVS	420	0.29	6
GUARDS AND WATCH GUARDS	1,180	0.81	5
WAITERS AND WAITRESSES	20	0.01	26
FOOD SERVERS, OUTSIDE	1,830	1.25	6
DINING ROOM, CAFETERIA ATTENDANTS,BAR HELPERS	660	0.45	7
COUNTER ATTENDANTS-LUNCHROOM,COFFEE SHOP, ETC	750	0.51	18
BAKERS, BREAD AND PASTRY	110	0.08	7
BUTCHERS AND MEAT CUTTERS	20	0.01	20
COOKS, INSTITUTION OR CAFETERIA	820	0.56	3
COOKS, SHORT ORDER	70	0.05	14
FOOD PREPARATION WORKERS	2,610	1.78	5
ALL OTHER FOOD SERVICE WORKERS	1,440	0.98	8
DENTAL ASSISTANTS	30	0.02	19
MEDICAL ASSISTANTS	370	0.25	13
NURSING AIDES, ORDERLIES, AND ATTENDANTS	11,520	7.87	6
HOME HEALTH AIDES	60	0.04	27
PSYCHIATRIC AIDES	1,370	0.94	18
PHYSICAL & CORRECTIVE THERAPY ASSISTANT,AIDES	350	0.24	7
OCCUPATIONAL THERAPY ASSISTANTS AND AIDES	210	0.14	12
AMBULANCE DRIVERS & ATTENDANTS, EXCEPT EMT.	20	0.01	26
PHARMACY ASSISTANTS	710	0.49	6
ALL OTHER HEALTH SERVICE WORKERS	1,350	0.92	15
MAIDS AND HOUSEKEEPING CLEANERS	4,620	3.16	4
JANITORS,CLEANERS,EXCEPT MAIDS,HOUSE CLEANERS	2,260	1.54	8
ELEVATOR OPERATORS	70	0.05	28
ALL OTHER CLEANING & BUILDING SERVICE WORKERS	560	0.38	26
BARBERS	20	0.01	14
HAIRDRESSERS, HAIRSTYLISTS, & COSMETOLOGISTS	20	0.01	14
SOCIAL WELFARE SERVICE AIDES	10	0.01	40
CHILD CARE WORKERS	40	0.03	31
ALL OTHER SERVICE WORKERS	80	0.05	39
AGRICULTURAL,FORESTRY,FISHING,RELATED OCCUP	290	0.20	N/A
GARDENERS AND GROUNDSKEEPERS, EXCEPT FARM	270	0.18	8
ALL OTHER AGRIC,FOR,FISH, & RELATED WORKERS	20	0.01	48
PRODUCTION, CONSTRUCTION, & MAINTENANCE OCCS.	5,530	3.78	N/A
SUPERVISORS-MECHANICS, INSTALLERS, REPAIRERS	140	0.10	11
SUPERVISORS-CCNSTRUCTION & EXTRACTIVE WORKERS	60	0.04	21
ALL OTHER SUPERVISORS-PROD, CONST, MAINT. ETC	130	0.09	17

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TABLE
OCCUPATIONS OF EMPLOYEES
HOSPITALS
SIC = 806
REFERENCE DATE APRIL, 1983

OCCUPATIONAL TITLE	EMPLOYMENT		
	NUMBER[1]	PERCENT OF TOTAL	RELATIVE ERROR %
INSPECTORS AND RELATED OCCUPATIONS	20	0.01	33
MACHINERY MAINTENANCE MECHANICS	170	0.12	13
MAINTENANCE REPAIRERS, GENERAL UTILITY	640	0.44	5
HEATING, A/C & REFRIG MECHANICS & INSTALLERS	160	0.11	9
ELECTROMEDICAL,BIOMEDICAL EQUIPMENT REPAIRERS	120	0.08	15
MENDERS-GARMENTS, LINENS, AND RELATED	80	0.05	9
ALL OTHER MECHANICS, INSTALLERS, & REPAIRERS	120	0.08	16
CARPENTERS	310	0.21	3
ELECTRICIANS	270	0.18	3
PAINTERS, PAPERHANGERS, CONSTR & MAINTENANCE	350	0.24	4
PLUMBERS, PIPEFITTERS, AND STEAMFITTERS	230	0.16	5
ALL OTHER CONSTRUCTION TRADES WORKERS	150	0.10	13
MACHINISTS	10	0.01	20
MEDICAL APPLIANCE MAKERS	50	0.03	24
ALL OTHER PRECISION WORKERS	240	0.16	N/A
SEWING MACHINE OPERATORS, NON-GARMENT	80	0.05	16
LAUNDRY,DRYCLEANING MACH OPER,TEND,EXC PRESS	490	0.33	8
PRESSING MACH OPER & TENDERS-TEXTILE, GARMENT	50	0.03	16
BOILER OPERATORS AND TENDERS, LOW PRESSURE	240	0.16	9
ALL OTHER MACHINE SETTERS & SET-UP OPERATORS	110	0.08	20
ALL OTHER MACHINE OPERATORS AND TENDERS	90	0.06	31
SEWERS, HAND	30	0.02	23
ALL OTHER HAND WORKERS	90	0.06	25
STATIONARY ENGINEERS	280	0.19	8
ALL OTHER PLANT AND SYSTEM OPERATORS	80	0.05	18
TRUCK DRIVERS, LIGHT-INC DEL & ROUTE WORKERS	170	0.12	10
ALL OTHER MOTOR VEHICLE OPERATORS	90	0.06	13
ALL OTHER TRANSPORTATION AND RELATED WORKERS	60	0.04	22
INDUSTRIAL TRUCK AND TRACTOR OPERATORS	30	0.02	35
ALL OTHER MATERIAL MOVING EQUIPMENT OPERATORS	10	0.01	24
HELPERS, LABORERS, AND MATERIAL MOVERS, HAND	380	0.26	20

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For your convenience we are including Table 3 taken from our publication "Massachusetts Employment: Projected Changes 1980 to 1990".

This publication makes the following observation:

"During the 1980-1990 projection period, more than 20 percent of all new job openings in Massachusetts will occur in the health services industry. Of 36 professional and technical occupational categories analyzed in the health services field, only four show anticipated growth of less than 20 percent.

- Registered nurses, already the largest category in the health services industry, will add 14,500 new job openings during the projection period.

- Demand for therapists, radiologic technologists and laboratory technicians is expected to increase sharply, creating employment growth of approximately 30 percent in each of these broad categories."

PROJECTIONS
HEALTH RELATED OCCUPATIONS
1980 AND PROJECTED 1990

OCCUPATIONAL TITLE	EMPLOYMENT 1980 1/	EMPLOYMENT 1990 1/	CHANGE 1980 - 1990 ABSOLUTE	CHANGE 1980 - 1990 PERCENT 2/
MEDICAL WORKERS EX. TECHNICIANS	83,190	106,020	22,830	27.4
CHIROPRACTORS	390	540	150	38.5
DENTISTS	3,900	4,650	750	19.2
DIETITIANS &/OR NUTRITIONISTS	1,610	1,940	330	20.5
NURSES, PROFESSIONAL	48,250	62,730	14,480	30.0
OPTOMETRISTS	760	970	210	37.6
PHARMACISTS	4,260	4,650	390	9.2
PHYSICIANS &/OR SURGEONS	16,250	20,310	4,060	25.0
PODIATRISTS	380	510	130	34.2
THERAPISTS	6,780	8,860	2,080	30.7
OCCUPATIONAL THERAPISTS	770	1,130	360	46.8
MANUAL ARTS, MUSIC, REC. THERAP.	690	820	130	18.8
SPEECH & HEARING CLINICIANS ETC.	1,340	1,560	220	16.4
PHYSICAL THERAPISTS	1,720	2,370	650	37.8
RESPIRATORY THERAPISTS	1,610	2,100	490	30.4
ALL OTHER THERAPISTS	660	890	230	34.8
VETERINARIANS	630	850	220	34.9
OTHER HEALTH TECHNOLS. & TECHN.	41,010	51,520	10,510	25.6
CLINICAL LAB. TECHNOLS. & TECHN.	7,450	9,860	2,410	32.3
MEDICAL LAB. TECHNOLOGISTS	3,470	4,530	1,060	30.5
BIOCHEMISTRY TECHNOLOGISTS	470	630	160	34.0
MICROBIOLOGY TECHNOLOGISTS	370	480	110	29.7
CYTOTECHNOLOGISTS	160	230	70	43.8
HISTOLOGIC TECHNOLOGISTS	230	300	70	30.4
MEDICAL LAB. ASSISTANTS	1,880	2,500	620	33.0
BLOOD BANK TECH. SPECIALISTS	870	1,190	320	36.8
DENTAL HYGIENTISTS & ASSISTANTS	6,160	7,870	1,710	27.8
DENTAL ASSISTANTS	3,980	5,070	1,090	27.4
DENTAL HYGIENISTS	2,180	2,800	620	28.4
MEDICAL RECORD LIBRARIANS	430	540	110	25.6
RADIOLOGIC TECHNOLS., TECHN.	3,680	4,760	1,080	29.3
X-RAY TECHNICIANS	2,560	3,310	750	29.3
RADIATION THERAPY/NUC MED. TECH.	1,120	1,440	320	28.6
OTHER HEALTH TECHNOLS., TECHN.	23,280	28,500	5,220	22.4
SURGICAL TECHNICIANS	910	1,170	260	28.6
EKG TECHNICIANS	750	940	190	25.3
EEG TECHNICIANS	160	210	50	31.3
EMERGENCY MEDICAL TECHNICIANS	450	570	120	26.7
PHARMACY HELPERS	770	980	210	27.3
LICENSED PRACTICAL NURSES	16,800	20,200	3,400	20.2
DIETETIC TECHNICIANS	450	570	120	26.7
PHYSICAL THERAPY TECHNICIANS	710	880	170	23.9
ALL OTHER MED. & DENTAL TECHN.	2,280	2,980	700	30.7

1/ Summed parts may not equal totals because of rounding.
2/ Percentages calculated from rounded numbers.

A P P E N D I X

METHODOLOGY

The Sample

The second quarter 1983 report (ES 202) of employment and wages covered by the Massachusetts Employment Security Law was used as a sampling frame for the Occupational Employment Statistics survey of hospitals.

The sampling frame was stratified by three-digit SIC's Standard Industrial Classification) and by nine employment size classes. Establishments with less than four employees were excluded from the sample and all units with employment of two hundred and fifty or more were automatically included. All other establishments were subject to sample selection on a random basis, with the units in larger size classes having a proportionally higher chance of selection. Each unit was given a weight according to the proportion of hospitals selected in each size class. The sample included 175 hospitals with benchmark employment of 147,421.

The Survey and Responses

Each hospital was mailed a survey schedule; telephone calls and personal visits were made where the date was critical for calculating valid estimates. As many as three follow-up schedules were mailed to nonrespondents. Of the 175 hospitals in the survey, replies were received from 132 or 75.4 percent. After manual editing and mechanical (computer) screening, 128 responses with total employment of 109,438 were determined usable, 74.24 percent of sample employment.

The Estimating Procedure

All usable responses were stratified into seven size groups, by industry. Reported total employment (or the summed occupational employment) from each usable response was multiplied by the weight assigned during sample selection. These industry data were then divided into the employment in the ES-202 report for the reference month of the survey (stratified by corresponding size class cells). The result produced by the procedure is known as the benchmark factor. This factor was then applied to the occupation data, thus accounting for nonresponse. These occupational estimates were than summed across size classes to industry totals.

Sampling Error

Sampling error is an arithemetic measure of the precision of estimate. It is the difference between the estimate computed from the sample and

the result that would have been obtained if the same methods were used to collect identical information from the universe. The relative errors listed in this report are the sampling errors of each occupation expressed as a percent of that occupational estimate. The relative errors shown are such that the chances are 2 out of 3 that the results of collecting identical information from the entire population would not differ by more than the percent of relative error shown; the chances are 19 out of 20, that the results of collecting identical information from the entire population would not differ by more than twice the percent shown. For example, it is estimated in this report that there are 9,380 Licensed Practical Nurses, making up 6.41 percent of total employment in the industry. Thus, the chances are about 68 out of 100 that the results of comparable full scale data collection would differ by less than 375 (4 percent) from the 9,380 estimated. Similarly, the estimated 6.41 percent of total employment would differ by less than .25 percent of total employment.

Nonsampling Error

The results of this survey are subject to biases and other nonsampling errors. Although careful editing and screening steps were taken, responding establishments may account for some errors in computations and processing, as well as placing workers in a wrong occupation. The nonrespondents are a source of nonsampling error for which measures are not available but are reflected in the estimating procedure.

This calendar gives you a quick check on how many years of education, after high school, you should count on for the representative health occupations listed here. The lines and symbols show what is customary—some people take only minimum required training; many take more.

● Requires no special training.

●..... Entails an apprenticeship, special course, or on-the-job training.

——— Requires special training in college, a hospital, special school, or a professional school after 1 to 4 years of college.

○ Though the line shows the minimum period to qualify, more preprofessional years in college lengthen the total training time.

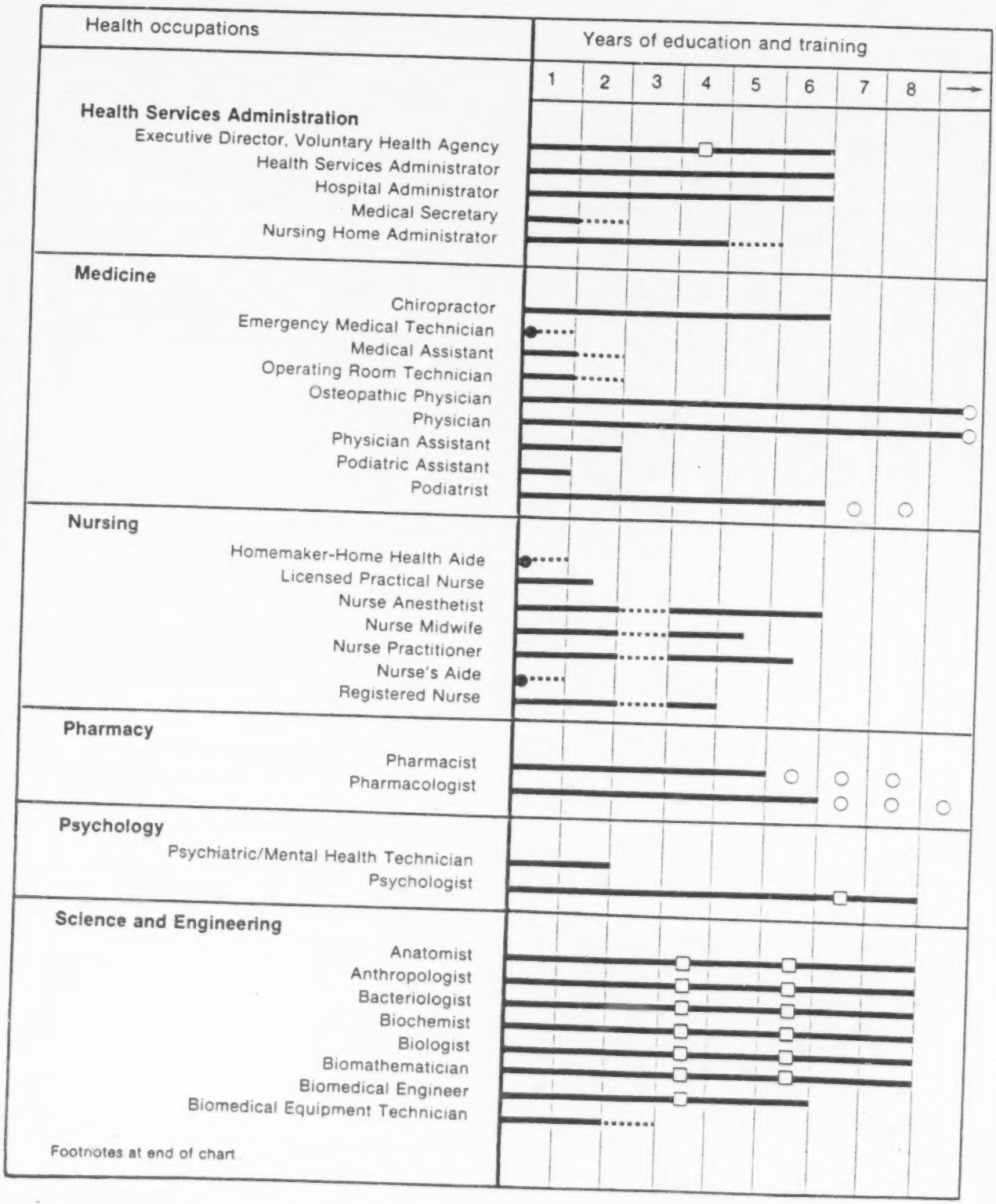
□ First square means one can get a junior professional job after college. Subsequent squares indicate that more study--to or beyond the master's or doctor's degree--as well as experience is usually needed for advancement.

———..... Requires special training of varying periods of time.

This calendar pictures training information in condensed timetable form. To get a more detailed picture, read the *Health Careers Guidebook** Occupational Descriptions and consult your school advisers for information and personal guidance on training and the local outlook for the career you want.

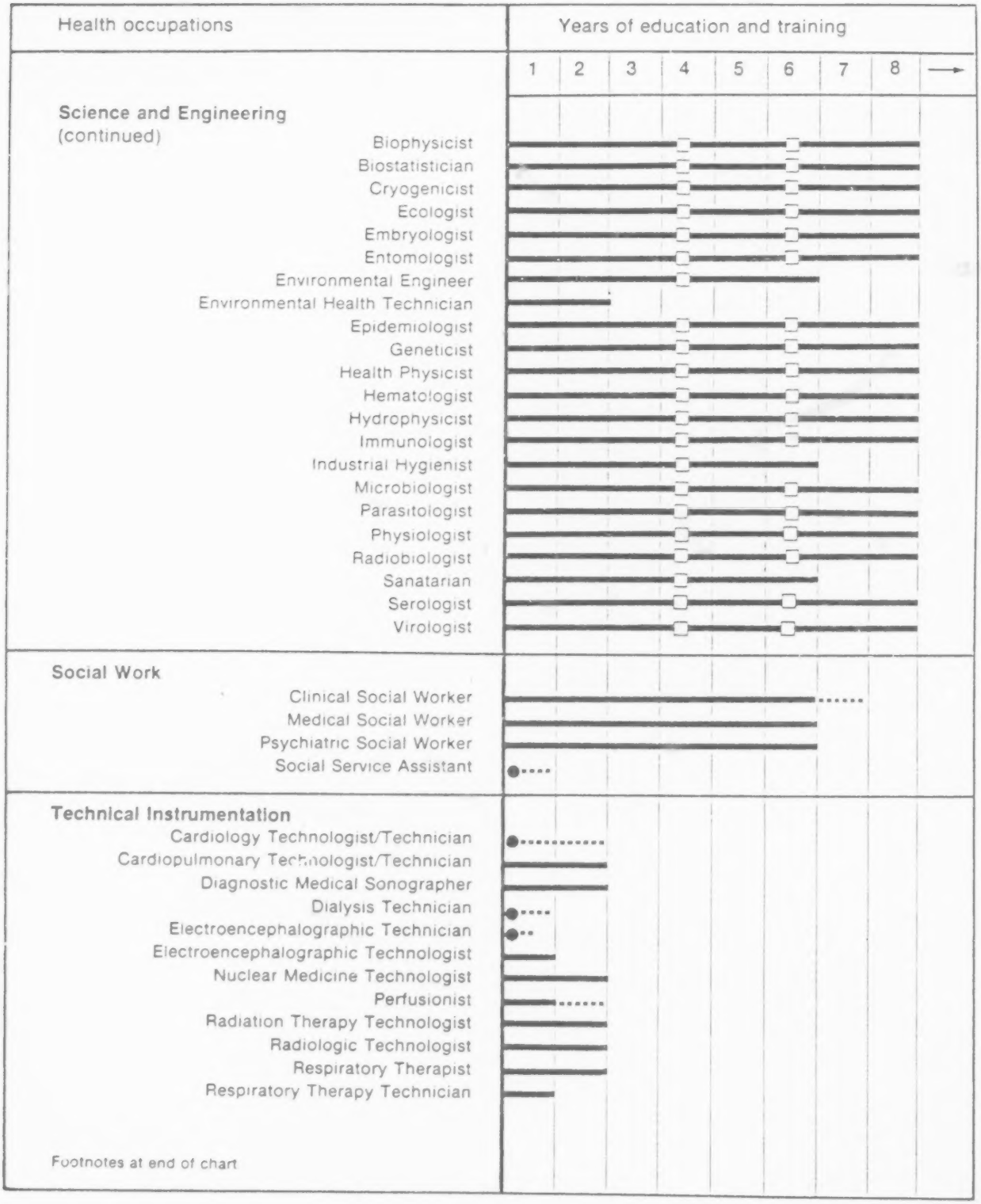
* Health Careers Guidebook, U. S. Department of Labor, Employment and Training Administration.

Years of Education and Training Beyond High School For Careers in Health Occupation--Continued

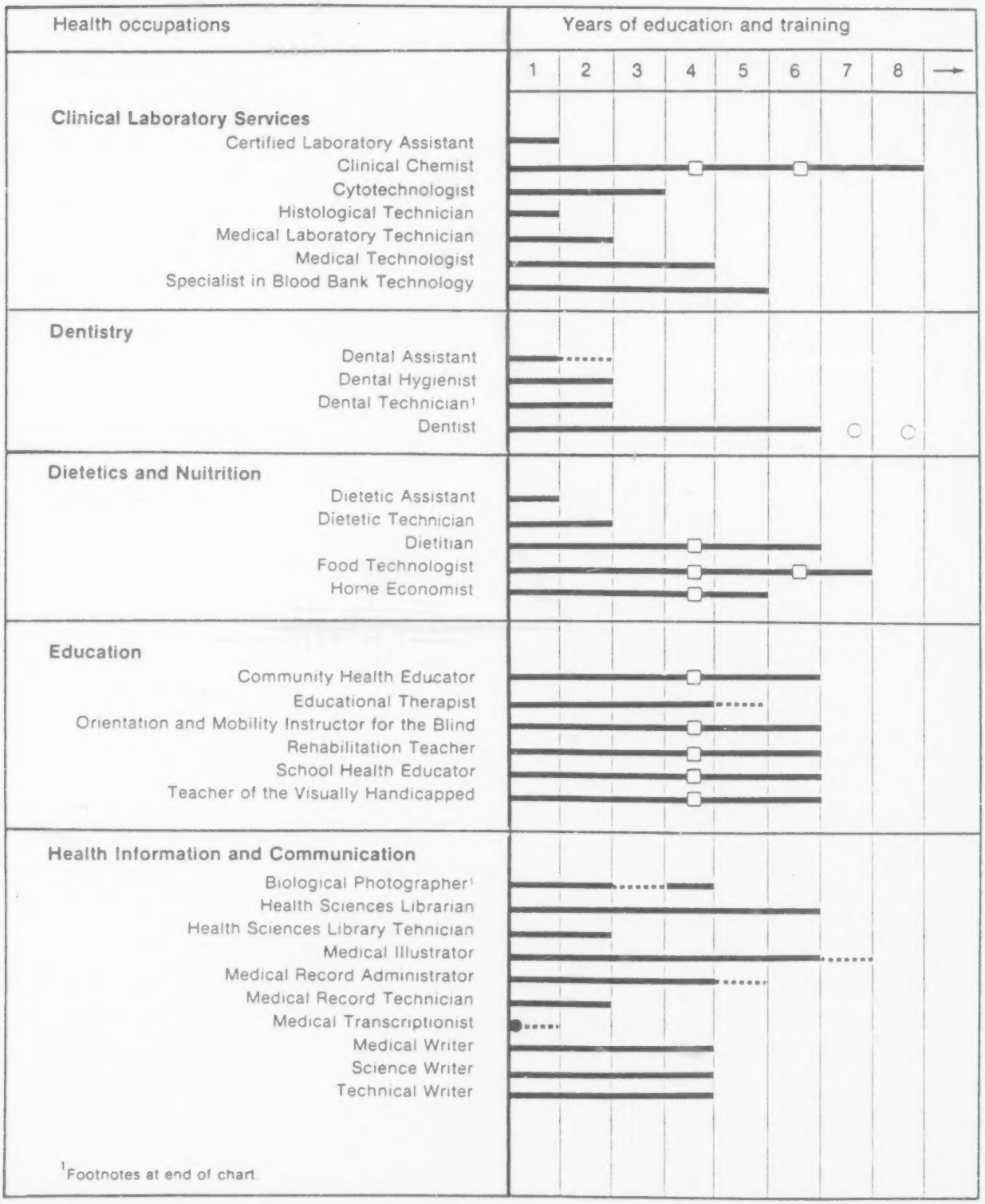


Footnotes at end of chart

Years of Education and Training Beyond High School For Careers in Health Occupations--Continued

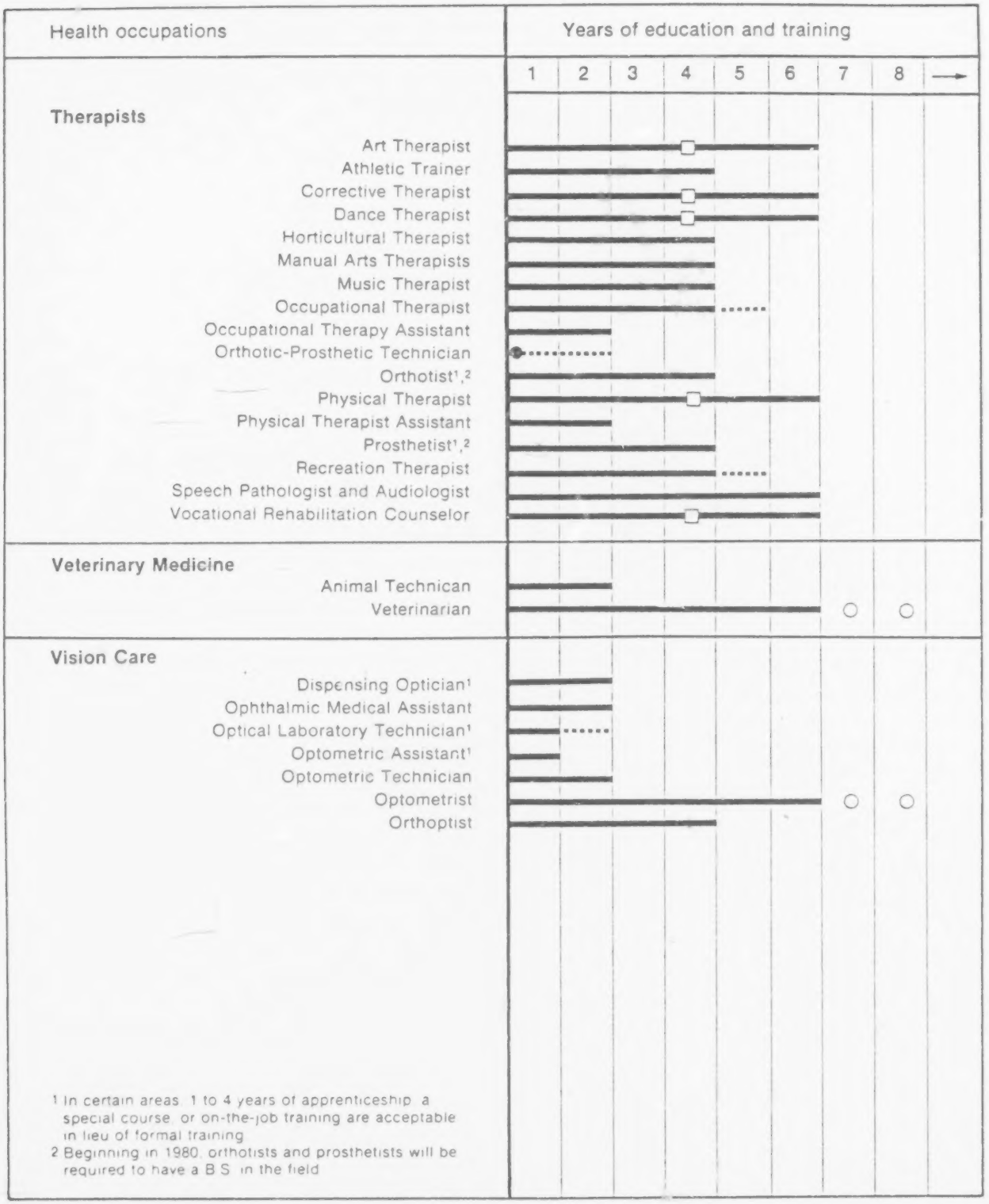


Years of Education and Training Beyond High School For Careers in Health Occupations



[1]Footnotes at end of chart

Years of Education and Training Beyond High School For Careers in Health Occupations--Continued



1 In certain areas 1 to 4 years of apprenticeship a special course or on-the-job training are acceptable in lieu of formal training

2 Beginning in 1980, orthotists and prosthetists will be required to have a B.S. in the field

Occupational Report 3800

in Cooperation with the U.S. Department of Labor

The information collected on this form by the Bureau of Labor Statistics and the State agencies cooperating in its statistical programs will be held in confidence and will be used for statistical purposes only.

This report is authorized by law 29 U.S.C. 882. Your voluntary cooperation is needed to make the results of this survey comprehensive, accurate, and timely.

Form Approved
O M B No. 1220 004
Approval expires 12-31-8

OCCUPATIONAL EMPLOYMENT SURVEY FOR HOSPITALS

INSTRUCTIONS–PLEASE COMPLETE SECTIONS I thru V–This form requests information on the number of workers you employ by occupation–No wage or accounting information is required.

SECTION I – COVERAGE

a. **PRODUCT OR SERVICE:** According to our records, your products or services are related to those listed on the label below.

If this list is not generally appropriate, please specify below and continue to item b.

_____

_____

_____

_____

b. **UNIT(S) COVERED**

Please report for only the unit(s) identified by the words "report for," on the label below. As a guide, our estimate of the unit(s) employment is in the lower right corner. If the unit(s) identified cover(s) more than one location, how many? → ____

Some employers may receive more than one form and are asked to report separately for each unit(s) covered by the individual forms.

HOSPITALS PROVIDING DIAGNOSTIC SERVICES, EXTENSIVE MEDICAL TREATMENT INCLUDING SURGICAL AND OTHER HOSPITAL SERVICES, AND CONTINUOUS NURSING SERVICES. HAVE ORGANIZED MEDICAL STAFF, INPATIENT BEDS, AND EQUIPMENT AND FACILITIES TO PROVIDE COMPLETE HEALTH CARE.

(Please change address if incorrect)

(Employment)

Office Use Only
Status
Auxiliary

c. **SURVEY PERIOD:** Pay period including April 12, 1983

Please report for the pay period which includes this date. If, because of *unusual* operational problems, this period is not typical, choose a period that approximates the norm and specify → _____

Seasonal and general economic changes in employment should *not* be considered an unusual operational problem.

If the unit(s) did not operate under your management during the survey period, annotate below

☐ Out of Business ☐ Sold or Merged New name & address → _____

d. **UNIT EMPLOYMENT:** How many employees, as defined below, are covered by this report? _____ Office Code 999999

COVERED EMPLOYEES Full or part time paid workers; Workers on *paid* vacations or other types of leave; Workers on *unpaid* short term absences (i.e., illness, bad weather, temporary layoff, jury duty); Salaried officers, executives and staff of incorporated firms; Employees temporarily assigned to other units; Employees for whom this unit is their permanent (home) duty station, regardless of whether this unit prepares their pay check.

NON COVERED EMPLOYEES: Proprietors, owners and partners of unincorporated firms; Unpaid family workers; Workers on extended leave (i.e., pensioners and members of the armed forces) and workers on long term layoff.

IF QUESTIONS ARISE CONCERNING YOUR REPORT, WHOM SHOULD WE CONTACT?

SECTION II: UNIT(S) STATUS

a. TYPE OF OWNERSHIP *(Please check one of the following)*

☐ Corporation ☐ Partnership ☐ Sole Proprietorship ☐ Other *(explain)* → _____

b. AUXILIARY STATUS Is the Unit *primarily* engaged in performing services for *other* units of your company? ☐ Yes ☐ No If yes, please check block below

☐ Central administrative office ☐ Research, development, or testing lab ☐ Storage *(warehouse)* ☐ Other *(specify, e.g., powerplant)* → _____

c. RESEARCH AND DEVELOPMENT EMPLOYMENT If this unit(s) has any employees engaged in research and development as defined below, enter total number of employees engaged in R&D → _____

SECTION III: DEFINITIONS AND SPECIAL INSTRUCTIONS

Report multiple job holders only once: Report an employee who performs work in two or more of the listed occupations in the job that you believe requires the *highest level of skill*. If there is no measureable difference in skill requirements, report the employee in the occupation in which he spends most of his time.

Report employees in the occupation in which they are working, not in an occupation for which they may have been trained, if that is different. For example, an employee trained as an Engineer but working as a Drafter, should be reported as a Drafter.

Report part time workers, learners, and apprentices in the occupation in which they ordinarily perform their work.

Research and Development: Include in this function employees who spend the greatest proportion of their time performing, managing, or administering basic and applied research in engineering, mathematics, physical, life (including medicine), and other sciences, and in the design and development of prototypes and processes. For purposes of this study, research and development *includes* the following types of activities: (a) Pursuit of planned research of new knowledge, whether or not the research has reference to a specific application. (b) Application of existing knowledge to problems involved in the creation of a new product or process, including work required to evaluate possible uses. (c) Application of existing knowledge to problems involved in the improvement of an existing product or process.

SECTION IV: REPORT EMPLOYMENT BY OCCUPATION

Report all covered employees in one of the listed occupations that follow. Use the "All Other" categories only when there is no appropriate occupation described. If accurate employment figures are not available, reasonable estimates may be given.

Research and Development workers, in addition to being included in the unshaded area, should be separately reported in the shaded area provided.

Please classify workers according to the definitions provided rather than by title alone.

INDEX TO MAJOR OCCUPATIONAL DIVISIONS IN SECTION IV

	Page
Managerial and Administrative	3
Professional, Paraprofessional, and Technical	4
Sales and Related	14
Clerical and Administrative Support	15
Service	18
Agricultural, Forestry, Fishing, and Related Occupations	22
Production, Construction, Operating, Maintenance, and Material Handling	22

EMPLOYMENT BY OCCUPATION

Occupations Please report number of your employees by occupation.	Number of Employees	Office Code
MANAGERIAL AND ADMINISTRATIVE OCCUPATIONS **Include in this division top and middle-level managers, administrators, and executives. Primary duties are policy making, planning, staffing, directing or controlling the activities of industrial, commercial, governmental or other establishments..... *Organization of this section* - Occupations in this section are ordered functionally as follows: Staff and administrative managerial; industry specific managerial; and a residual 'All Other' category .....*Special instructions* - *Exclude* first-line supervisors and managers with first-line duties. These workers, if professional, paraprofessional or technical, should be reported with the workers they supervise. All other supervisors and manager/supervisors should be reported in the separate categories provided in each division. *Exclude* owners and partners of unincorporated firms. *Include* only managers and administrators who are exempt from the minimum wage and overtime provision of the Fair Labor Standards Act.**		
● *SELECTED STAFF AND ADMINISTRATIVE SPECIALTY MANAGERIAL OCCUPATIONS*		
FINANCIAL MANAGERS (CONTROLLERS; FINANCE DEPARTMENT MANAGERS; TREASURERS; ETC.): Plan, organize, direct, control, or coordinate the financial activities of an organization. Include managers in banks or similar financial institutions who advise on credit and investment policy or negotiate general policy with financial or other institutions.		130023
PERSONNEL, TRAINING, AND LABOR RELATIONS MANAGERS (PERSONNEL DEPARTMENT MANAGERS; BENEFITS DIRECTORS; INDUSTRIAL RELATIONS DIRECTORS; ETC.): Plan, organize, direct, control, or coordinate the personnel, training or labor relations activities of an organization. Work involves establishing employer-relations policies; directing the selection, training, and evaluation of employees; administering benefits, safety, and recreation programs; developing wage and salary schedules; coordinating bargaining activities; and advising on labor contract administration.		130053
PURCHASING MANAGERS (PROCUREMENT MANAGERS; ETC.): Plan, organize, direct, control, or coordinate the activities of buyers, purchasing officers, and related workers involved in purchasing materials, products, or services. Include wholesale or retail trade merchandising managers.		130083
MARKETING, ADVERTISING, AND PUBLIC RELATIONS MANAGERS (PROMOTION MANAGERS; ETC.): Formulate marketing policies, direct sales activities, and plan, organize, and direct advertising and public relations activities for a department, an entire organization, or on an account basis.		130113
ADMINISTRATIVE SERVICES MANAGERS (CONTRACT ADMINISTRATORS; ETC.; EXCLUDE PROCUREMENT MANAGERS): Plan, organize, direct, control, or coordinate the supportive services department of businesses, agencies, and organizations. Typical Administrative Service Managers are Office Managers, Property Managers, and Contract Administrators. Managers who spend less than 80% of their time in administrative services should be classified in another appropriate managerial category. *Exclude* Procurement Managers.		130143

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EMPLOYMENT BY OCCUPATION

Occupations	Number of Employees	Office C
● *OTHER MANAGERIAL AND ADMINISTRATIVE OCCUPATIONS*		
MEDICINE AND HEALTH SERVICES MANAGERS (EMERGENCY MEDICAL SERVICE COORDINATORS; MEDICAL RECORDS ADMINISTRATORS; NURSING SERVICE DIRECTORS; ETC.): Plan, organize, direct, control, or coordinate medicine and health services in establishments, such as hospitals, clinics, or similar organizations.	R&D + Non R&D =	15008
	R&D Only	15008
FOOD SERVICE AND LODGING MANAGERS: Plan, organize, direct, control, or coordinate management activities of an organization or department that serves food and beverages and/or provides lodging and other accommodations. Include Food and Beverage Directors.		15026
GENERAL MANAGERS AND TOP EXECUTIVES (CHIEF HOSPITAL ADMINISTRATORS; ETC.): Include both top and mid level managers whose duties and responsibilities are too diverse and general in nature to be classified in any functional or line area of management and administration. These managers generally work through departmental or subordinate executives. *Exclude* managers of smaller establishments who typically engage in the same activities as the workers they supervise and report them in the appropriate category in the other divisions.	R&D + Non R&D =	19005
	R&D Only	19005
ALL OTHER MANAGERS AND ADMINISTRATORS (ENGINEERING DEPARTMENT MANAGERS; PROPERTIES MANAGERS; CAFETERIA MANAGERS; RESEARCH AND DEVELOPMENT MANAGERS; ETC.): Include all other workers in this category not classified separately above. *Please identify in Section V (at the end of this form) all occupations included in this category that are numerically important and require substantial training, or are emerging due to technological changes in your industry.*	R&D + Non R&D =	19999
	R&D Only	19999
PROFESSIONAL, PARAPROFESSIONAL, AND TECHNICAL OCCUPATIONS		
Include in this division persons concerned with the theoretical or practical aspects of such fields as science, art, education, law and business relations where substantial post-secondary educational preparation, or equivalent on-the job training or experience is required..... *Organization of this section* - Occupations in this section are ordered functionally as follows: General management support; engineering and scientific; data processing and mathematical; social science, law and related; teaching and related; medicine and health; writing, art and related; and a residual 'All Other' category..... *Special Instructions* - Quality Control Workers should be reported according to the nature of the quality control process (i.e. chemical, mechanical, biological). Thus, an Engineer engaged in quality control work of a chemical nature should be reported as a Chemical Engineer..... Unlike the other divisions of this form, first-line supervisors and managers with first-line duties should be reported along with the workers they supervise.		
● *MANAGEMENT SUPPORT OCCUPATIONS*		
ACCOUNTANTS, AUDITORS, AND OTHER FINANCIAL SPECIALISTS: Include persons engaged in planning and administering accounting services, advising on tax and accountancy problems, conducting audits, and planning and administering other financial activities, such as budget analysis, mortgage approval, credit and underwriting analysis, and foreign exchange trading.		
ACCOUNTANTS AND AUDITORS: Examine, analyze, and interpret accounting records for the purpose of giving advice or preparing statements and installing or advising on systems of recording costs or other financial and budgetary data.		211143

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EMPLOYMENT BY OCCUPATION

Occupations	Number of Employees	Office Code
BUDGET ANALYSTS: Examine budget estimates for completeness, accuracy, and conformance with procedures and regulations. Examine requests for budget revisions, recommend approval or denial, and draft correspondence. Analyze monthly department budgeting and accounting reports for the purpose of maintaining expenditure controls. Provide technical assistance to officials in the preparation of budgets.		211173
ALL OTHER FINANCIAL SPECIALISTS: Include all other workers in this category not classified separately above. *Please identify in Section V (at the end of this form) all occupations included in this category that are numerically important and require substantial training, or are emerging due to technological changes in your industry.*		211993
PURCHASING AGENTS- EXCEPT WHOLESALE, RETAIL, AND FARM PRODUCTS: Purchase raw or semi-finished materials for manufacturing or purchase machinery, equipment, tools, parts, supplies, or services necessary for the operation of an establishment. Include Contract Specialists, Field Contractors, Purchase Price Analysts, Tooling Coordinators, and Media Buyers.		213083
PERSONNEL, TRAINING, AND LABOR RELATIONS SPECIALISTS: Conduct programs of recruitment, selection, placement, training, promotion, welfare, safety, compensation, or separation of employees. May specialize in specific areas such as labor-management relations, counseling, job analysis, position classification, training, or compensation. *Exclude* occupations in personnel research and in the administration of testing and counseling programs for which a background in psychology is required. Also *exclude* Employment Interviewers, Private or Public Employment Service.		215113
COST ESTIMATORS: Prepare cost estimates for manufacturing of products, construction projects, or services to aid management in bidding on or determining price of products or services. May specialize according to particular service performed or product produced.		219023
COMPLIANCE OFFICERS AND ENFORCEMENT INSPECTORS, EXCEPT CONSTRUCTION: Enforce adherence to policies, procedures, or regulations and advise on standards. May be employed in the public or private sector and inspect and enforce regulations on such matters as health, safety, food, immigration, licensing, or interstate commerce.		219113
ALL OTHER MANAGEMENT SUPPORT WORKERS (MANAGEMENT ANALYSTS; PROFESSIONAL ADMINISTRATIVE ASSISTANTS; ETC.): Include all other workers in this category not classified separately above. *Please identify in Section V (at the end of this form) all occupations included in this category that are numerically important and require substantial training, or are emerging due to technological changes in your industry.*		219993
● *ENGINEERS AND RELATED OCCUPATIONS*		
ENGINEERS (EXCLUDE SALES ENGINEERS- SEE SALES DIVISION): Include persons engaged in the practical application of physical laws and principles of engineering for the development and utilization of machines, materials, instruments, processes, and services. Include Engineers in research, development, production, technical services, and other positions which require knowledge normally obtained through completion of a 4-year engineering college program. *Exclude* Sales Engineers and report them with the Sales Workers and *exclude* persons trained in engineering but currently working in positions not requiring engineering training.		
CIVIL ENGINEERS, INCLUDING TRAFFIC (STRUCTURAL ENGINEERS; HYDRAULIC ENGINEERS; SANITARY ENGINEERS; ETC.): Perform a variety of engineering work in planning, designing, and overseeing construction and maintenance of structures and facilities, such as roads, railroads, airports, bridges, harbors, channels, dams, irrigation projects, pipelines, power plants, water and sewage systems, and waste disposal units. Include Traffic Engineers who specialize in studying vehicular and pedestrian traffic conditions.	R&D + Non R&D =	221213
	R&D Only	221215
ELECTRICAL AND ELECTRONIC ENGINEERS (ELECTRICAL DESIGN ENGINEERS; COMPUTER ENGINEERS; ELECTRICAL PRODUCTS AND SYSTEMS ENGINEERS; ETC.): Design, develop, test and supervise the manufacture and installation of electrical and electronic equipment, components or systems, computers and related equipment and systems for commercial, industrial, military or scientific use. *Exclude* Sales Engineers and report them with the Sales Workers.	R&D + Non R&D =	221263
	R&D Only	221265

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EMPLOYMENT BY OCCUPATION

Occupations	Number of Employees	Office Code
INDUSTRIAL ENGINEERS, EXCEPT SAFETY (TIME STUDY ENGINEERS; INDUSTRIAL QUALITY CONTROL ENGINEERS; ETC.): Perform a variety of engineering work in planning and overseeing the utilization of production facilities and personnel in department or other subdivision of industrial establishment. Plan equipment layout, workflow, and accident prevention measures to maintain efficient and safe utilization of plant facilities. Plan and oversee work study and training programs to promote efficient worker utilization. Develop and oversee quality control, inventory control, and production record systems. Industrial Product Safety Engineers should be included with Safety Engineers.	R&D + Non R&D = R&D Only	221283 221285
MECHANICAL ENGINEERS (FACILITIES OR PRODUCTS MECHANICAL ENGINEERS; PLANT EQUIPMENT ENGINEERS; TOOL DESIGN ENGINEERS; ETC.): Perform a variety of engineering work in the planning and designing of tools, engines, machines, and other mechanically functioning equipment, and oversee installation, operation, maintenance, and repair of such equipment, including centralized heat, gas, water, and steam systems. *Exclude* Sales Engineers and report them with the Sales Workers.	R&D + Non R&D = R&D Only	221353 221355
ALL OTHER ENGINEERS (OPTICAL ENGINEERS; PACKAGING ENGINEERS; BIOMEDICAL ENGINEERS; SAFETY ENGINEERS; ETC.): Include all other workers in this category not classified separately above. *Please identify in Section V (at the end of this form) all occupations included in this category that are numerically important and require substantial training, or are emerging due to technological changes in your industry.*	R&D + Non R&D = R&D Only	221993 221995
25 **ENGINEERING AND RELATED TECHNICIANS AND TECHNOLOGISTS: Include persons who assist Engineers, Architects, or Surveying and Mapping Scientists in laboratory or production activities, such as research, development, equipment or machine design, testing, quality control, and efficiency studies. Normally these technicians work under the general supervision of an Engineer, Architect, or Surveying and Mapping Scientists, utilizing basic knowledge of principles and techniques in specific areas of engineering, science, mathematics, drafting, and surveying and mapping. Repair Technicians whose work is primarily maintenance and not developmental are *excluded* and should be reported with Mechanics and Repairers.**		
CIVIL ENGINEERING TECHNICIANS AND TECHNOLOGISTS: Apply theory and principles of civil engineering in planning, designing, and overseeing construction and maintenance of structures and facilities under the direction of engineering staff and physical scientists.	R&D + Non R&D = R&D Only	225023 225025
ELECTRICAL AND ELECTRONIC ENGINEERING TECHNICIANS AND TECHNOLOGISTS (RESEARCH INSTRUMENTATION TECHNICIANS; ETC.): Apply electrical and electronic theory and related knowledge to design, build, test, repair, and modify developmental, experimental, or production electrical equipment in industrial or commercial plants and for subsequent use by engineering personnel in making engineering design and evaluation decisions.	R&D + Non R&D = R&D Only	225053 225055
INDUSTRIAL ENGINEERING TECHNICIANS AND TECHNOLOGISTS (TIME STUDY TECHNICIANS; ETC.): Study and record time, motion, method, and speed involved in performance of production, maintenance, clerical, and other worker operations for such purposes as establishing standard production rates or improving efficiency. Usually work under the direction of engineering staff.	R&D + Non R&D = R&D Only	225083 225085
MECHANICAL ENGINEERING TECHNICIANS AND TECHNOLOGISTS (TOOL OR DIE DRAWING CHECKERS; OPTOMECHANICAL TECHNICIANS; ETC.): Apply theory and principles of mechanical engineering to develop and test machinery and equipment under direction of engineering staff and physical scientists.	R&D + Non R&D = R&D Only	225113 225115

EMPLOYMENT BY OCCUPATION

Occupations	Number of Employees	Office Co
DRAFTERS (DETAIL DRAFTERS; STRUCTURAL DRAFTERS; CHIEF DRAFTERS; MECHANICAL DRAFTERS; ETC.): Prepare clear, complete, and accurate working plans and detail drawings from rough or detailed sketches or notes for engineering or manufacturing purposes according to specified dimensions. Utilize knowledge of various machines, engineering practices, mathematics, building materials, and other physical sciences to complete drawings.	R&D + Non R&D =	225143
	R&D Only	225145
ALL OTHER ENGINEERING AND RELATED TECHNICIANS AND TECHNOLOGISTS (RESEARCH MECHANICS; ETC.): Include all other workers in this category not classified separately above. *Please identify in Section V (at the end of this form) all occupations included in this category that are numerically important and require substantial training, or are emerging due to technological changes in your industry.*	R&D + Non R&D =	225993
	R&D Only	225995
● *NATURAL SCIENTISTS AND RELATED WORKERS*		
PHYSICAL SCIENTISTS: Include persons engaged in research, development, production, or providing technical services pertaining to the physical universe (i.e. Geologists, Chemists, Physicists, etc.). Work may focus on increasing the basic knowledge of the physical universe or the application of these scientific principles and theories to specific problems and situations. Physical Scientists are engaged in scientific work which requires knowledge normally obtained by completion of a 4-year physical sciences college program. *Exclude* Biophysicists and Biochemists and report them with Life Scientists.		
CHEMISTS, EXCEPT BIOCHEMISTS (PHYSICAL CHEMISTS; POLLUTION CONTROL CHEMISTS; ANALYTICAL CHEMISTS; ETC.): Conduct chemical tests, qualitative and quantitative chemical analyses, or chemical experiments in laboratories for quality or process control or to develop new products or new knowledge. *Exclude* Biochemists.	R&D + Non R&D =	241053
	R&D Only	241055
ALL OTHER PHYSICAL SCIENTISTS (WATER QUALITY ANALYSTS; ENVIRONMENTAL SCIENTISTS; ETC.): Include all other workers in this category not classified separately above. *Please identify in Section V (at the end of this form) all occupations included in this category that are numerically important and require substantial training, or are emerging due to technological changes in your industry.*	R&D + Non R&D =	241993
	R&D Only	241995
LIFE SCIENTISTS (BIOLOGISTS; BIOCHEMISTS; BIOPHYSICISTS; ETC.): Include persons engaged in research, development, production, or providing technical services pertaining to the life sciences (i.e. Agricultural, Biological, Medical Scientists, etc.). Work may focus on increasing the basic knowledge of life sciences or the application of these scientific principles and theories to specific problems and situations. Life Scientists engage in scientific work which requires knowledge normally obtained by completion of a 4-year life sciences college program. Include Biophysicists and Biochemists.		
BIOLOGICAL SCIENTISTS (BIOCHEMISTS; BIOPHYSICISTS; CYTOLOGISTS; MICROBIOLOGISTS; GENETICISTS; PHYSIOLOGISTS; ETC.): Include scientists concerned with research into problems dealing with life processes. Include Biologists, Biochemists, Biophysicists, Pathologists, Pharmacologists, Bacteriologists, Toxicologists, and Zoologists. *Exclude* Medical and Agricultural Scientists.	R&D + Non R&D =	243083
	R&D Only	243085
MEDICAL SCIENTISTS (PUBLIC HEALTH MICROBIOLOGISTS; ANATOMISTS; PARASITOLOGISTS; HISTOPATHOLOGISTS; PHARMACOLOGISTS; ETC.; EXCLUDE MEDICAL PRACTITIONERS AND PHARMACISTS): Include Medical Scientists such as Physicians, Dentists, Public Health Specialists, Pharmacists, and Medical Pathologists who are concerned with the understanding of human diseases and improvement of human health and are engaged in clinical investigation or other research, production, technical writing, or related activities. *Exclude* practitioners who provide medical care or dispense drugs.	R&D + Non R&D =	243113
	R&D Only	243115

EMPLOYMENT BY OCCUPATION

Occupations	Number of Employees	Office Code
ALL OTHER LIFE SCIENTISTS: Include all other workers in this category not classified separately above. *Please identify in Section V (at the end of this form) all occupations included in this category that are numerically important and require substantial training, or are emerging due to technological changes in your industry.*	R&D + Non R&D =	243993
	R&D Only	243995
PHYSICAL AND LIFE SCIENCE TECHNICIANS AND TECHNOLOGISTS: Include persons who assist physical and life scientists in laboratory and production activities, such as laboratory analysis; quality control; design and maintenance of special apparatus, plant, and equipment; and developing industrial processes. Normally these technicians work under the direct supervision of a Physical or Life Scientist and assist in those activities which are more routine in nature. *Exclude* Medical and Dental Technicians and Technologists.		
BIOLOGICAL, AGRICULTURAL, AND FOOD TECHNICIANS AND TECHNOLOGISTS, EXCEPT HEALTH (EXCLUDE CLINICAL LABORATORY TECHNOLOGISTS AND TECHNICIANS): Assist scientists in laboratory and production activities by performing tasks necessary to experiment, test, and develop new and improved methods in production, preservation, and processing of plant and animal life. Develop improved methods of processing and preserving for artificial insemination. Test blood of poultry to ascertain presence of disease. Include Agricultural Technicians who treat ornamental and shade trees to improve their health and appearance.	R&D + Non R&D =	245023
	R&D Only	245025
CHEMICAL TECHNICIANS AND TECHNOLOGISTS, EXCEPT HEALTH (CHEMICAL LABORATORY TESTERS; ETC.): Conduct chemical and physical laboratory tests to assist scientists in making qualitative and quantitative analyses of solids, liquids, and gaseous materials for purposes such as research and development of new products or processes, quality control, maintenance of environmental standards, and other work involving experimental, theoretical, or practical application of chemistry and related sciences.	R&D + Non R&D =	245053
	R&D Only	245055
ALL OTHER PHYSICAL AND LIFE SCIENCE TECHNICIANS AND TECHNOLOGISTS (AIR ANALYSIS TECHNICIANS; ETC.): Include all other workers in this category not classified separately above. *Please identify in Section V (at the end of this form) all occupations included in this category that are numerically important and require substantial training, or are emerging due to technological changes in your industry.*	R&D + Non R&D =	245993
	R&D Only	245995
● *COMPUTER, MATHEMATICAL, OPERATIONS RESEARCH, AND RELATED OCCUPATIONS*		
SYSTEMS ANALYSTS, ELECTRONIC DATA PROCESSING (SOFTWARE SYSTEMS ANALYSTS; INFORMATION SCIENTISTS; COMPUTER SCIENTISTS; ETC.): Analyze business, scientific, and technical problems for application to electronic data processing systems. *Exclude* persons working primarily as Engineers, Mathematicians, or Scientists.	R&D + Non R&D =	251023
	R&D Only	251025
COMPUTER PROGRAMMERS (BUSINESS, SCIENTIFIC, OR ENGINEERING PROGRAMMERS; ETC.): Convert symbolic statements of administrative data, business, scientific, engineering, and other technical problem formulations to detailed logical flow chart for coding into computer language; develop and write computer programs to store, locate, and retrieve specific documents, data, and information.	R&D + Non R&D =	251053
	R&D Only	251055
COMPUTER PROGRAMMER AIDES: Assist Computer Programmers or Systems Analysts by performing computer related tasks, such as entering completed programs for conversion to machine instructions, writing simple programs to retrieve data, and other duties to assist in the process of data or to control industrial processes.		251083
MATHEMATICAL SCIENTISTS: Conduct research in fundamental mathematics and in the application of mathematical techniques to science, management, and other fields and solve or direct solutions to problems in various fields by mathematical methods.		

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EMPLOYMENT BY OCCUPATION

Occupations	Number of Employees	Office Code
STATISTICIANS (BIOMETRICIANS; TIME STUDY STATISTICIANS; MATHEMATICAL STATISTICIANS; ETC.): Plan surveys and collect, organize, interpret, summarize, and analyze numerical data, applying statistical theory and methods to provide usable information in scientific, business, economic, and other fields. The data derived from surveys may represent either complete enumeration or statistical samples. Include Mathematical Statisticians who are engaged in the development of mathematical theory associated with the application of statistical techniques.	R&D + Non R&D =	253123
	R&D Only	253125
ALL OTHER MATHEMATICAL SCIENTISTS (MATHEMATICIANS; ETC.): Include all other workers in this category not classified separately above. *Please identify in Section V (at the end of this form) all occupations included in this category that are numerically important and require substantial training, or are emerging due to technological changes in your industry.*	R&D + Non R&D =	253193
	R&D Only	253195
MATHEMATICAL TECHNICIANS (EXCLUDE STATISTICAL CLERKS): Apply standardized mathematical formulas, principles, and methodology to technical problems in engineering and physical science in relation to specific industrial and research objectives, processes, equipment, and products.	R&D + Non R&D =	253233
	R&D Only	253235
● *SOCIAL SCIENTISTS AND OTHER SOCIAL, RECREATIONAL, AND RELIGIOUS OCCUPATIONS*		
SOCIAL SCIENTISTS, INCLUDING URBAN AND REGIONAL PLANNERS: Include persons concerned with human society and its characteristic elements, such as origin, race, or state; with economic and social relations and institutions involved in man's existence as a member of an organized community; and with the collection, interpretation, and application of scientific data relating to human behavior and mental processes. Include occupations such as Economists, Psychologists, Market Research Analysts, and Urban and Regional Planners.		
PSYCHOLOGISTS (CLINICAL PSYCHOLOGISTS; SOCIAL PSYCHOLOGISTS; ETC.): Collect, interpret, and apply scientific data relating to human behavior and mental processes. Activities are in either applied fields of psychology or in basic science fields and research. *Include* occupations in personnel research and in administration of testing and counseling programs. *Exclude* Psychiatrists.	R&D + Non R&D =	271083
	R&D Only	271085
ALL OTHER SOCIAL SCIENTISTS (HISTORIANS; SOCIOLOGISTS; ETC.): Include all other workers in this category not classified separately above. *Please identify in Section V (at the end of this form) all occupations included in this category that are numerically important and require substantial training, or are emerging due to technological changes in your industry.*	R&D + Non R&D =	271993
	R&D Only	271995
SOCIAL WORKERS, MEDICAL AND PSYCHIATRIC (DRUG OR ALCOHOL ADDICTION COUNSELORS; MEDICAL CASEWORKERS; ETC.): Counsel and aid individuals and families with problems that may arise during or following the recovery from physical or mental illness by providing supportive services designed to help the persons understand, accept, and follow medical recommendations. Include Chemical Dependency Counselors.		273023
SOCIAL WORKERS, EXCEPT MEDICAL AND PSYCHIATRIC (COMMUNITY ORGANIZATION WORKERS; CASEWORKERS; ETC.): Counsel and aid individuals and families requiring social service assistance. Include Community Organization Social Workers who plan, organize and work with community groups to solve problems. *Exclude* Medical, Psychiatric, and Chemical Dependency Social Workers.		273053
SOCIAL SERVICE TECHNICIANS (CASE AIDES; ETC.): Assist Social Group Workers and Caseworkers with developing, organizing, and conducting programs to prevent and resolve problems relevant to substance abuse and human relationships. Provide services to families and clients where the nature of the problem, or relationships involved, is less complex or serious by helping them obtain information on the use of social and community related services. May recommend additional services.		273083

EMPLOYMENT BY OCCUPATION

Occupations	Number of Employees	Office Co
CLERGY (PRIESTS; RABBIS; MINISTERS; ETC.): Conduct religious worship and perform other spiritual functions associated with beliefs and practices of religious faith or denomination as delegated by ordinance, license, or other authorization and provide spiritual and moral guidance and assistance to members.		27502
● *TEACHERS, EDUCATORS, LIBRARIANS, AND RELATED OCCUPATIONS*		
NURSING INSTRUCTORS: Demonstrate and teach patient care in classroom and clinical units to nursing students. Instruct students in principles and application of physical, biological, and psychological subjects related to nursing. Lecture, conduct, and supervise laboratory experiments. Issue assignments, direct seminars, etc. Participate in planning curriculum with medical and nursing personnel and in evaluating and improving teaching and nursing practices. May specialize in specific subjects, such as anatomy or chemistry, or in a type of nursing activity, such as nursing of surgical patients.		31114
TEACHERS AND INSTRUCTORS, VOCATIONAL EDUCATION AND TRAINING: Teach or instruct vocational and/or occupational subjects at the post-secondary level (but at less than the baccalaureate) to students who have graduated or left high school. A variety of subjects such as business, secretarial science, data processing, trades, or practical nursing are included. Include correspondence school instructors; industrial, commercial or government training instructors; and other adult education teachers and instructors who prepare persons to operate industrial machinery and equipment and transportation and communications equipment. Teaching and instruction may take place in public or private schools whose primary business is education or in a school associated with an organization whose primary business is other than education.		31314
ALL OTHER TEACHERS AND INSTRUCTORS: Include all other workers in this category not classified separately above. *Please identify in Section V (at the end of this form) all occupations included in this category that are numerically important and require substantial training, or are emerging due to technological changes in your industry.*		31399
LIBRARIANS, PROFESSIONAL (EXCLUDE MEDICAL RECORDS LIBRARIANS): Include persons concerned with administering libraries and performing related library services including selecting, acquiring, cataloging, classifying, circulating, and maintaining library materials or furnishing references, bibliographies, and reader's advisory services. May select music, films, or other audio-visual material for subject matter of program.		31502
TECHNICAL ASSISTANTS, LIBRARY: Assist librarians by furnishing information on library sciences, facilities, and rules, by assisting readers in the use of card catalogs and indexes to locate books and other materials, and by answering questions that require only brief consultation of standard reference. May train and supervise clerical staff or catalog books.		31505
● *HEALTH PRACTITIONERS, TECHNOLOGISTS, AND RELATED OCCUPATIONS*		
HEALTH DIAGNOSING AND TREATING PRACTITIONERS: Include persons engaged in preventing and diagnosing human and animal ailments, and prescribing and giving medical and surgical treatment for diseases and illnesses. Include occupations such as Physicians and Surgeons, Dentists, Optometrists, Podiatrists, Veterinarians and Veterinary Inspectors.		
PHYSICIANS AND SURGEONS (PSYCHIATRISTS; RADIOLOGISTS; OSTEOPATHS; GENERAL PRACTITIONERS; HEART SPECIALISTS; PEDIATRICIANS; OPHTHALMOLOGISTS; ETC.): Include doctors of medicine who diagnose and treat mental or physical disorders. May specialize in one field such as surgery, obstetrics, or psychiatry.	R&D + Non R&D =	321023
	R&D Only	321025
DENTISTS (ORTHODONTISTS; ENDODONTISTS; PERIODONTISTS; ORAL SURGEONS; ETC.): Diagnose and treat diseases, injuries, and malformations of teeth or gums and related oral structures.	R&D + Non R&D =	321053
	R&D Only	321055

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EMPLOYMENT BY OCCUPATION

Occupations	Number of Employees	Office Co
OPTOMETRISTS (EXCLUDE OPTICIANS): Examine eyes to determine visual efficiency and performance by use of instruments and observation, and prescribe corrective procedures.	R&D + Non R&D =	32108
	R&D Only	32108
PODIATRISTS (PODIATRIC SURGEONS; ORTHOPEDIC PODIATRISTS; CHIROPODISTS; ETC.): Diagnose and treat diseases and deformities of the human foot	R&D + Non R&D =	32111
	R&D Only	32111
ALL OTHER HEALTH DIAGNOSING AND TREATING PRACTITIONERS (ACUPUNCTURISTS; HYPNOTHERAPISTS; CHIROPRACTORS; ETC.): Include all other workers in this category not classified separately above. *Please identify in Section V (at the end of this form) all occupations included in this category that are numerically important and require substantial training, or are emerging due to technological changes in your industry.*	R&D + Non R&D =	32199
	R&D Only	32199
THERAPISTS: Include persons engaged in administering health treatment to patients with disabilities, disorders and injuries to relieve pain, develop or restore functions; prevent muscular deconditioning, and maintain maximum performance. Treatment includes the use of exercise, massage, heat, water, light, music, art, or electricity as prescribed by a Physician.		
RESPIRATORY THERAPISTS (INHALATION THERAPISTS; ETC.): Set up and operate various types of equipment, such as iron lungs, oxygen tents, resuscitators, and incubators, to administer oxygen and other gases to patients.	R&D + Non R&D =	32302
	R&D Only	32302
OCCUPATIONAL THERAPISTS (INDUSTRIAL THERAPISTS; ETC.): Plan, organize, and participate in medically oriented occupational program in hospital or similar institution to rehabilitate patients who are physically or mentally ill.	R&D + Non R&D =	32305
	R&D Only	32305
PHYSICAL THERAPISTS (PEDIATRIC PHYSICAL THERAPISTS; PULMONARY PHYSICAL THERAPISTS; PHYSIOTHERAPISTS; ETC.): Apply techniques and treatments that help relieve pain, increase the patient's strength, and decrease or prevent deformity and crippling	R&D + Non R&D =	32308
	R&D Only	32308
CORRECTIVE AND MANUAL ARTS THERAPISTS: *Corrective Therapists*: Apply techniques and treatment designed to prevent muscular deconditioning resulting from long convalescence or inactivity due to chronic illness. *Manual Arts Therapists*: Instruct patients in prescribed manual arts activities to prevent anatomical and physiological deconditioning and to assist in maintaining, improving, or developing work skills	R&D + Non R&D =	32311
	R&D Only	32311
SPEECH PATHOLOGISTS AND AUDIOLOGISTS (SPEECH CLINICIANS; SPEECH THERAPISTS; ETC.): Examine and provide remedial services for persons with speech and hearing disorders and perform research related to speech and language problems.	R&D + Non R&D =	32314
	R&D Only	32314
RECREATIONAL THERAPISTS: Plan, organize, and direct medically approved recreation programs for patients in hospitals, nursing homes or other institutions. Activities include sports, trips, dramatics, social activities, and arts and crafts. *Exclude* therapists who specialize *only* in music or art therapy.		32317

Occupations	Number of Employees	Office Code
ALL OTHER THERAPISTS (ART THERAPISTS; ORIENTATION THERAPISTS FOR THE BLIND; MUSIC THERAPISTS; ETC.): Include all other workers in this category not classified separately above. *Please identify in Section V (at the end of this form) all occupations included in this category that are numerically important and require substantial training, or are emerging due to technological changes in your industry*	R&D + Non R&D = R&D Only	323993 323995
● *SELECTED HEALTH CARE MAINTENANCE AND TREATING WORKERS*		
REGISTERED NURSES (NURSE PRACTITIONERS; GENERAL DUTY NURSES; NURSING SUPERVISORS; ETC.; EXCLUDE NURSING INSTRUCTORS): Administer nursing care to ill or injured persons. Include administrative, public health, industrial, private duty, and surgical nurses. Licensing or registration is required. *Exclude* Nursing Instructors and Teachers and report them in the Teachers, Educators, Librarians and Related Workers category.	R&D + Non R&D = R&D Only	325023 325025
LICENSED PRACTICAL NURSES: Care for ill, injured, convalescent, and handicapped persons in hospitals, clinics, private homes, sanitariums, and similar institutions.		325053
EMERGENCY MEDICAL TECHNICIANS (E.M.T.; PARAMEDICS; ETC.; EXCLUDE AMBULANCE ATTENDANTS): Administer first aid treatment and transport sick or injured persons to medical facility working as a member of an emergency medical team.		325083
PHYSICIAN'S ASSISTANTS (SURGEONS'S ASSISTANTS; GYNECOLOGICAL ASSISTANTS; PEDIATRIC PHYSICIAN'S ASSISTANTS; ORTHOPEDIC PHYSICIAN'S ASSISTANTS; ETC.; EXCLUDE NURSES): Provide patient services under direct supervision and responsibility of doctor of medicine or osteopathy. Elicit detailed patient histories and do complete physical examinations. Reach tentative diagnosis and order appropriate laboratory tests. Require substantial educational preparation, usually at colleges or junior colleges. Most physician's assistants complete 2 years of formal training, but training may vary from 1 to 5 years depending on the nature of the training and previous education and experience. *Exclude* Ambulance Attendants, whose training is limited to the application of first aid, and Nurses.	R&D + Non R&D = R&D Only	325113 325115
OPTICIANS, DISPENSING AND MEASURING (EXCLUDE OPTOMETRISTS): Design, measure, fit, and adapt lenses and frames for client according to written optical prescription or specification. Assist client with selecting frames according to style and color. Measure customer for size of eyeglasses and coordinate frames with facial and eye measurements and optical prescription. Prepare work order for optical laboratory containing instructions for grinding and mounting lenses in frames; verify exactness of finished lens spectacles. Adjust frame and lens position to fit client. May shape or reshape frames. Include Contact Lens Opticians.		325143
PHARMACISTS (REGISTERED PHARMACISTS; DRUGGISTS; ETC.): Compound and dispense medications following prescriptions issued by physicians, dentists or other authorized medical practitioners.	R&D + Non R&D = R&D Only	325173 325175
DIETITIANS AND NUTRITIONISTS (PUBLIC HEALTH NUTRITIONISTS; THERAPEUTIC DIETICIANS; CLINICAL DIETITIANS; CHIEF DIETICIANS; ETC.): Organize, plan, and conduct food service or nutritional program to assist in promotion of health and control of disease. May administer activities of department providing quantity food service. May plan, organize, and conduct programs in nutritional research.	R&D + Non R&D = R&D Only	325213 325215
DIETETIC TECHNICIANS: Provide service in assigned areas of food service management. Teach principles of food and nutrition and provide dietary counseling under direction of Dietitians.	R&D + Non R&D = R&D Only	325233 325235

Occupations	Number of Employees	Office Code
● *OTHER HEALTH PROFESSIONALS, PARAPROFESSIONALS, AND TECHNICIANS*		
MEDICAL AND CLINICAL LABORATORY TECHNOLOGISTS (MICROBIOLOGY TECHNOLOGISTS; CHIEF MEDICAL TECHNOLOGISTS; HEMOTOLOGY TECHNOLOGISTS; CYTOTECHNOLOGISTS; BIOCHEMISTRY TECHNOLOGISTS; ETC.; EXCLUDE DENTAL TECHNOLOGISTS): Perform a wide range of complex procedures in the general areas of the clinical laboratory or perform specialized procedures in such areas as cytology, histology, and microbiology. Duties may include supervising and coordinating activities of workers engaged in laboratory testing. Include workers who teach medical technology when teaching is not their primary activity.	R&D + Non R&D = R&D Only	329023 329025
MEDICAL AND CLINICAL LABORATORY TECHNICIANS (TISSUE TECHNICIANS; BLOOD BANK TECHNICIANS; SEROLOGY TECHNICIANS; CYTOTECHNICIANS; ETC.; INCLUDE VETERINARY LABORATORY TECHNICIANS; EXCLUDE DENTAL TECHNICIANS): Perform routine tests in medical laboratory for use in treatment and diagnosis of disease. Prepare vaccines, biologicals, and serums for prevention of disease. Prepare tissue samples for Pathologists, take blood samples, and execute such laboratory tests as urinalysis and blood counts. May work under the general supervision of a Medical Laboratory Technologist.	R&D + Non R&D = R&D Only	329053 329055
DENTAL HYGIENISTS (ORAL HYGIENISTS; ETC.): Perform dental prophylactic treatments and instruct groups and individuals in the care of the teeth and mouth.		329083
MEDICAL RECORDS TECHNICIANS AND TECHNOLOGISTS (MEDICAL RECORDS SPECIALISTS; MEDICAL RECORDS LIBRARIANS; ETC.): Compile and maintain medical records of hospital and clinic patients.		329113
NUCLEAR MEDICINE TECHNOLOGISTS (RADIOISOTOPE TECHNICIANS; ETC.): Prepare, administer, and measure radioactive isotopes in therapeutic, diagnostic, and tracer studies utilizing a variety of radioisotope equipment. Prepare stock solutions of radioactive materials and calculate doses to be administered by Radiologists. Subject patients to radiation. Execute blood volume, red cell survival, and fat absorption studies following standard laboratory techniques.	R&D + Non R&D = R&D Only	329143 329145
RADIOLOGIC TECHNOLOGISTS (EXCLUDE X-RAY AND RADIOLOGIC TECHNICIANS): Take X-rays, Catscans, or administer nonradioactive materials into patient's blood stream for diagnostic and therapeutic purposes. Report workers whose primary duties are to demonstrate portions of the human body on X-ray film or fluoroscopic screen as Radiologic Technicians.	R&D + Non R&D = R&D Only	329173 329175
RADIOLOGIC TECHNICIANS (X-RAY TECHNICIANS; ETC.; EXCLUDE RADIOLOGIC TECHNOLOGISTS): Maintain and safely use equipment and supplies necessary to demonstrate portions of the human body on X-ray film or fluoroscopic screen for diagnostic purposes.	R&D + Non R&D = R&D Only	329213 329215
ELECTROENCEPHALOGRAPH TECHNICIANS AND TECHNOLOGISTS (EEG TECHNICIANS; ETC.): Measure impulse frequencies and differences in electrical potential between various portions of the brain using equipment that records data as a series of irregular lines on a continuous graph to be used by medical practitioner in diagnosing brain disorders.	R&D + Non R&D = R&D Only	329233 329235
ELECTROCARDIOGRAPH TECHNICIANS AND TECHNOLOGISTS (EKG TECHNICIANS; ETC.): Record electromotive variations in action of heart muscle using electrocardiograph machine to provide data for diagnoses of heart ailments.	R&D + Non R&D = R&D Only	329263 329265

EMPLOYMENT BY OCCUPATION

Occupations	Number of Employees	Office Code
SURGICAL TECHNICIANS (SURGICAL ORDERLIES; ETC.): Perform any combination of the following tasks either before, during, or after an operation: Prepare patient by washing, shaving, etc.; place equipment and supplies in operating room according to surgeon's instruction; arrange instruments under direction of nurse; maintain specified supply of fluid levels for use during operation, adjust lights and equipment as directed; clean operating room; count sponges, needles, and instruments used during operation; assist in administering blood, plasma, or other tanslusions or injections; and may hand surgeon instruments and supplies, hold retractors, and cut sutures as directed.	R&D + Non R&D =	329283
	R&D Only	329285
ALL OTHER HEALTH PROFESSIONALS, PARAPROFESSIONALS, AND TECHNICIANS (ULTRASOUND TECHNOLOGISTS; MENTAL HEALTH TECHNICIANS; DIALYSIS TECHNICIANS; INDUSTRIAL HYGIENISTS; ETC.): Include all other workers in this category not classified separately above. *Please identify in Section V (at the end of this form) all occupations included in this category that are numerically important and require substantial training, or are emerging due to technological changes in your industry.*	R&D + Non R&D =	329993
	R&D Only	329995
● *OTHER PROFESSIONAL, PARAPROFESSIONAL, AND TECHNICAL OCCUPATIONS*		
PUBLIC RELATIONS SPECIALISTS AND PUBLICITY WRITERS (LOBBYISTS; ETC.): Include workers concerned with promoting or creating good will for individuals, groups, or organizations by writing or selecting favorable publicity material and releasing it through various communications media, preparing and arranging displays, making speeches, and performing related publicity efforts.		340083
PHOTOGRAPHERS (ADVERTISING PHOTOGRAPHERS; SCIENTIFIC PHOTOGRAPHERS; ETC.): Photograph persons, subjects, merchandise or other commercial products. Include Scientific Photographers, Aerial Photographers, and Photojournalists. May develop negatives and produce finished prints.		340233
ALL OTHER PROFESSIONAL, PARAPROFESSIONAL, AND TECHNICAL WORKERS (LAWYERS; WRITERS AND EDITORS; ETC.): Include all other workers in this category not classified separately above. *Please identify in Section V (at the end of this form) all occupations included in this category that are numerically important and require substantial training, or are emerging due to technological changes in your industry.*	R&D + Non R&D =	399993
	R&D Only	399995
SALES AND RELATED OCCUPATIONS **Include in this division persons selling goods or services and others directly related to sales..... *Organization of this section* - Occupations in this section are ordered functionally as follows: Supervising; sales of services; commodity sales; and a residual 'All Other' category..... *Special Instructions* - Managers of smaller establishments who typically have first-line supervisory duties and engage in the same activities as the workers they supervise should be reported in the First Line Supervisors and Manager/Supervisors occupation.**		
CASHIERS (INCLUDE CASHIER-CHECKERS;): Receive and disburse money in establishments other than financial institutions. Usually involves use of adding machines, cash registers, and change makers.		490233
ALL OTHER SALES AND RELATED WORKERS (DEMONSTRATORS AND PROMOTERS; ETC.): Include all other workers in this category not classified separately above.		499993

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EMPLOYMENT BY OCCUPATION

Occupations	Number of Employees	Office Code
CLERICAL AND ADMINISTRATIVE SUPPORT OCCUPATIONS **Include in this division persons performing office and plant clerical tasks, such as typing, filing, computer operating, records keeping (personnel, stock, production, billing, etc.); and mail preparation and distributing..... *Organization of this section* - Occupations in this section are ordered functionally as follows: Supervising; unique and industry specific (occupations); secretarial and general office; office machine operating; communications and mail distributing; material recording and other production related; and a residual 'All Other' category.**		
FIRST LINE SUPERVISORS AND MANAGER/SUPERVISORS- CLERICAL AND ADMINISTRATIVE SUPPORT OCCUPATIONS (TYPING SUPERVISORS; BOOKKEEPING CLERK SUPERVISORS; OFFICE MANAGERS; ETC.): Directly supervise and coordinate activities of clerical and administrative support workers. Include Office Managers. Manager/Supervisors are generally found in smaller establishments where they perform both supervisory and management functions, such as accounting, marketing, and personnel work. In addition, Manager/Supervisors may also engage, in part, in the same clerical work as the workers they supervise.		**510023**
LIBRARY ASSISTANTS AND BOOKMOBILE DRIVERS: Compile records; sort and shelve books; issue and receive library materials, such as pictures, cards, slides, phonograph records, and microfilm; and handle tape decks. Locate library materials for loan and replace material in shelving area (stacks) or files according to identification number and title. Register patrons to permit them to borrow books, periodicals, and other library materials. Bookmobile Drivers operate a bookmobile or light truck that pulls a book trailer to specific locations on a predetermined schedule and assist with providing services in mobile library.		**539023**
SECRETARIES (INCLUDE CLERICAL ADMINISTRATIVE ASSISTANTS AND EXECUTIVE SECRETARIES): Relieve officials of clerical work and minor administrative and business detail by scheduling appointments, giving information to callers, taking dictation, composing and typing routine correspondence (using typewriter or word processor), reading and routing incoming mail, and filing correspondence and other records. May perform various other assigned clerical duties. Professional Administrative Assistants should be reported with professional workers.		
MEDICAL SECRETARIES: Perform secretarial duties utilizing specific knowledge of medical terminology and hospital, clinic, or laboratory procedures. Duties include taking dictation, and compiling and recording medical charts, reports, and correspondence using a typewriter. Duties may also include preparing and sending bills to patients or recording appointments.		**551053**
ALL OTHER SECRETARIES: Include all other workers in this category not classified separately above. *Please identify in Section V (at the end of this form) all occupations included in this category that are numerically important and require substantial training, or are emerging due to technological changes in your industry.*		**551993**
STENOGRAPHERS (STENOTYPE OPERATORS; ETC.): Take dictation in shorthand of correspondence, reports, and other material and operate typewriter or word processor to transcribe dictated material. Also perform variety of clerical duties, except when working in a stenographic pool. In addition to stenographic duties, may transcribe material from sound recordings.		**553023**
RECEPTIONISTS AND INFORMATION CLERKS (APPOINTMENT CLERKS; ETC.): Answer inquiries and obtain information for general public (customers, visitors, and other interested parties) concerning activities conducted at an establishment, location of offices or persons within firm, departments within store, or services within hotel. May perform variety of other clerical duties. *Exclude* Receptionists who operate switchboards.		**553053**

EMPLOYMENT BY OCCUPATION

Occupations	Number of Employees	Office Co
TYPISTS (TRANSCRIBING MACHINE TYPISTS; MEDICAL TRANSCRIPTIONISTS; CLERK-TYPISTS; ETC.): Type letters, reports, stencils, forms, addresses, or other straight copy material from rough draft, corrected copy, or voice recording. May perform other clerical duties as assigned. Typists using word processing equipment should be reported as Typists, Word Processing.		553083
TYPISTS, WORD PROCESSING EQUIPMENT: Use word processing equipment to type letters, forms, or other straight copy material from rough draft, corrected copy, or voice recording. May perform other clerical duties as assigned. Keypunchers are classified as Data Entry Keyers. Secretaries and Stenographers may also use word processing equipment but are *excluded* from this category.		553113
PERSONNEL CLERKS, EXCEPT PAYROLL AND TIMEKEEPING: Compile and keep personnel records. Record data for each employee, such as address, weekly earnings, absences, amount of sales or production, supervisory reports on ability, and on date of and reason for termination. Compile and type reports from employment records. File employment records. Search employee files and furnish information to authorized persons.		553143
FILE CLERKS: File correspondence, cards, invoices, receipts, and other records in alphabetical or numerical order or according to the filing system used. Locate and remove material from file when requested. May be required to classify and file new material.		553213
ORDER CLERKS- MATERIALS, MERCHANDISE, AND SERVICE (MAIL ORDER CLERKS; BLOOD BANK CREDIT CLERKS; TELEPHONE ORDER CLERKS; ETC.): Receive and process incoming orders for materials, merchandise, or services such as repairs, installations, or rental of facilities. Additional duties include informing customers of receipt of order, prices, shipping dates, and delays, preparing contracts; and handling complaints. Workers who dispatch as well as take orders for services should be reported as Dispatchers.		553233
PROCUREMENT CLERKS (PURCHASING CLERKS; ETC.): Compile information and records to draw up purchase orders for procurement of material.		553263
STATISTICAL CLERKS (SALES RECORD CLERKS; MEDICAL RECORDS STATISTICAL CLERKS; ETC.): Compile and compute data according to statistical formulas for use in statistical studies. May also perform actuarial computations using algebra and trigonometry and compile charts and graphs for use by Actuaries. Include Actuarial Clerks.		553283
INTERVIEWING CLERKS, EXCEPT PERSONNEL AND SOCIAL WELFARE (REGISTRATION CLERKS; HOSPITAL ADMITTING CLERKS; SURVEY WORKERS; ETC.): Interview the public to obtain information. Duties include contacting persons by telephone, mail, or in person for the purpose of completing forms, applications, or questionnaires; asking specific questions, recording answers, and assisting persons with completing form. May include sorting, classifying, and filing forms. *Exclude* workers whose primary duty is processing applications.		553323
BOOKKEEPING, ACCOUNTING, AND AUDITING CLERKS (MEDICAL VOUCHER CLERKS; BILLING CHECKERS; ETC.): Compute, classify, and record numerical data to keep sets of financial records complete. Perform any combination of routine calculating, posting, and verifying duties to obtain primary financial data for use in maintaining accounting records. May also check the accuracy of figures, calculations, and postings pertaining to business transactions recorded by other workers. Workers whose primary duty is operation of special office machines are classified as Billing, Posting, and Calculating Machine Operators.		553383
PAYROLL AND TIMEKEEPING CLERKS (COMMISSION CLERKS; ATTENDANCE CLERKS; ETC.): Compute wages and post wage data to payroll records and/or keep a daily record showing time of arrival and departure from work of employees. Compute earnings from timesheets and work tickets using calculator. Operate posting machine to compute and subtract deductions. Enter net wages on earnings record card, check stub, and payroll sheet.		553413

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EMPLOYMENT BY OCCUPATION

Occupations	Number of Employees	Office Code
BILLING, COST AND RATE CLERKS (MEDICAL INSURANCE CLERKS; ACCOUNTS PAYABLE CLERKS; ETC.): Compile data, compute fees and charges, and prepare invoices for billing purposes. Duties also include computing costs and calculating rates for goods, services, and shipment of goods; posting data and keeping other relevant records. May involve use of typing, adding, calculating, and bookkeeping machines. Workers whose primary duty is operation of special office machines are classified as Billing, Posting, and Calulating Machine Operators. Workers calculating charges for passenger transportation are classified as Reservation and Transportaton Ticket Agents.		553443
GENERAL OFFICE CLERKS: Workers should be classified as General Clerks *only* if their duties are too varied and diverse to be classified in any specific office clerical occupation. Clerical duties may be assigned in accordance with the office procedures of individual establishments and may include a combination of bookkeeping, typing, stenography, office machine operation, and filing.		553473
ELECTRONIC DATA PROCESSING AND OTHER OFFICE MACHINE OCCUPATIONS: Include workers who specialize in the operation of office machines, such as computers, billing machines, copiers, addressing and mailing machines, collators, data key-entry machines, etc. NOTE: Although most office workers operate 'office machines' as part of their work, the workers in this category spend the *majority* of their time in machine operation. Typists are *excluded* from this category.		
BILLING, POSTING, AND CALCULATING MACHINE OPERATORS (BOOKKEEPING AND BILLING MACHINE OPERATORS; CHECK SORTING CLERKS; INVOICE MACHINE OPERATORS; ETC.): Operate machines that automatically perform mathematical processes, such as addition, subtraction, multiplication, division, and extraction of roots, to calculate and record billing, accounting, statistical, and other numerical data. Duties also include operating special billing machines, generally combination typing and adding machines, to prepare statements, bills, and invoices, and the operation of bookkeeping machines to copy and post data, make computations, and compile records of transactions.		560023
COMPUTER OPERATORS, EXCEPT PERIPHERAL EQUIPMENT (CONSOLE OPERATORS; ETC.): Monitor and control electronic computer to process business, scientific, engineering, and other data according to operating instructions. *Exclude* operators who control peripheral equipment only.		560113
PERIPHERAL EDP EQUIPMENT OPERATORS (TABULATING MACHINE OPERATORS; ETC.): Operate computer peripheral equipment such as tape or disk drives, printers, card-to-tape or tabulating machines, sorters, or interpreters. *Exclude* Computer Operators and Data Entry Keyers.		560143
DATA ENTRY KEYERS, EXCEPT COMPOSING (KEYPUNCHERS; VERIFIER OPERATORS; ETC.): Operate keypunch or key entry devices to prepare data processing input materials on cards, disk or tape. Duties include machine entry recording, coding, or verifying alphabetic or numeric data.		560173
ALL OTHER OFFICE MACHINE OPERATORS (CHECK WRITING MACHINE OPERATORS; ETC.): Include all other workers in this category not classified separately above. *Please identify in Section V (at the end of this form) all occupations included in this category that are numerically important and require substantial training, or are emerging due to technological changes in your industry.*		560993
SWITCHBOARD OPERATORS (PBX OPERATORS; SWITCHBOARD RECEPTIONISTS; ETC.): Operate cord or cordless switchboard to relay incoming, outgoing, and interoffice calls. May supply information to callers and record messages. In addition to performing duties of Switchboard Operator, may also act as receptionist and perform routine clerical work and typing.		571023

EMPLOYMENT BY OCCUPATION

Occupations	Number of Employees	Office Co
MATERIAL RECORDING, SCHEDULING, DISPATCHING, AND DISTRIBUTING OCCUPATIONS: Include persons concerned with dispatching equipment, materials and workers, examining orders for goods and services; receiving, storing, scheduling, issuing, shipping, requisitioning, and accounting for material in store, in use, or in production. Include occupations such as Dispatchers, Production and Planning Clerks, Expeditors, Shipping Clerks, Stock Clerks, Meter Readers, Weighers, Checkers, and Samplers. In manufacturing, these workers are often closely related to clerical functions involved with the production process.		
DISPATCHERS- POLICE, FIRE, AND AMBULANCE: Receive complaints from public concerning crimes and police emergencies and broadcast orders to police radio patrol units in vicinity to investigate. Operate radio and telephone equipment to receive reports of fires and medical emergencies and relay information or orders to proper officials.		580023
STOCK CLERKS- STOCKROOM, WAREHOUSE OR STORAGE YARD (WAREHOUSE RECORD CLERKS; STOCKROOM INVENTORY CLERKS; ETC.): Receive, store, and issue materials, equipment, and other items from stockroom, warehouse, or storage yard. Keep records and compile stock reports. *Exclude* Stockroom Laborers and workers whose primary duties involve shipping, weighing, and checking.		580233
TRAFFIC, SHIPPING, AND RECEIVING CLERKS (FREIGHT CLERKS; SHIPPING PACKERS; ETC.): Verify and keep records on incoming and outgoing shipments and prepare items for shipment. Duties include assembling, addressing, stamping, and shipping merchandise or material; receiving, unpacking, verifying, and recording incoming merchandise or material, and arranging for the transportation of products. *Exclude* Laborers, Stock Clerks, and workers whose primary duties involve weighing and checking.		580283
ALL OTHER MATERIAL RECORDING, SCHEDULING, AND DISTRIBUTING WORKERS: Include all other workers in this category not classified separately above.		580993
ALL OTHER CLERICAL AND ADMINISTRATIVE SUPPORT WORKERS (MESSENGERS; MEDICAL RECORDS CLERKS; BILL AND ACCOUNT COLLECTORS; ETC.): Include all other workers in this category not classified separately above.		599993
SERVICE OCCUPATIONS		
Include in this division workers in occupations relating to protective service, food service, health assisting service, cleaning and building service, and personal service..... *Organization of this section* - Occupations in this section are ordered functionally as follows: Supervising; protective services; food services; health; cleaning; personal services; and a residual 'All Other' category.		
FIRST LINE SUPERVISORS AND MANAGER/SUPERVISORS- SERVICE: Include persons who directly supervise and coordinate activities of workers who provide protective services, food services, health assisting services, cleaning and building services, personal services, and other services. Manager/Supervisors are generally found in smaller establishments where they perform both supervisory and management functions, such as accounting, marketing, and personnel work. In addition, Manager/Supervisors may also engage, in part, in the same work as the workers they supervise. *Exclude* work leaders who spend 20% or more of their time at tasks similar to those of employees under their supervision and report them in the occupations which are most closely related to their specific work duties.		

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EMPLOYMENT BY OCCUPATION

Occupations	Number of Employees	Office Code
HOUSEKEEPERS (HOUSECLEANER SUPERVISORS; ETC.): Supervise work activities of cleaning personnel to insure clean, orderly and attractive rooms in hotels, hospitals, educational institutions, and similar establishments. Assign duties, inspect work, investigate complaints regarding housekeeping service and equipment and take corrective action. May purchase housekeeping supplies and equipment, and take periodic inventories. May screen applicants, train new employees and recommend dismissals.		610083
ALL OTHER SERVICE SUPERVISORS AND MANAGER/SUPERVISORS (HOSPITAL CAFETERIA SUPERVISORS; ETC.): Include all other workers in this category not classified separately above.		610993
GUARDS AND WATCH GUARDS: Stand guard at entrance gate or walk about premises of business or industrial establishment to prevent theft, violence, or infractions of rules; guard property against fire, theft, vandalism, and illegal entry; direct patrons or employees and answer questions relative to services of establishment; control traffic to and from buildings and grounds.		630473
HEALTH SERVICE AND RELATED OCCUPATIONS: Include persons who assist and work under the direction of Physicians, Dentists, Nurses, Therapists, Pharmacists, and other health related professional, paraprofessional, and technical workers. Workers in these occupations provide auxiliary services, such as assisting in the care of patients, relieving nurses of heavier work, preparing treatment rooms, transporting patients, assisting therapists, and mixing pharmaceutical preparations.		
DENTAL ASSISTANTS: Assist Dentist at chair, set up patient and equipment, keep records, and perform related duties as required.		660023
MEDICAL ASSISTANTS (MORGUE ATTENDANTS; BLOOD BANK ASSISTANTS; FORMULA ROOM WORKERS; RESPIRA ORY THERAPY AIDES; ETC.; EXCLUDE PHYSICIAN'S ASSISTANTS): Perform various duties under the direction of physician in examination and treatment of patients. Prepare treatment room, inventory supplies and instruments, and set up patient for attention of physician. Hand instruments and materials to physician as directed. May schedule appointments, keep medical records, or perform secretarial duties.		660053
NURSING AIDES, ORDERLIES, AND ATTENDANTS: Work under the direction of nursing or medical staff to provide auxiliary services in care of patients. Perform duties such as answering patient's call bell, serving and collecting food trays, and feeding patients. Orderlies are primarily concerned with the care of male patients, setting up equipment, and relieving nurses of heavier work. *Exclude* Psychiatric Aides and Home Health Aides.		660083
HOME HEALTH AIDES (EXCLUDE HOMEMAKERS): Care for elderly, convalescent, or handicapped person in home of patient. Perform duties for patient such as changing bed linen; preparing meals; assisting in and out of bed; bathing, dressing, and grooming; and administering oral medications under doctors' orders or direction of nurse. *Exclude* Nurses' Aides and Homemakers.		660113
PSYCHIATRIC AIDES (EXCLUDE MENTAL HEALTH TECHNICIANS): Assist mentally ill patients working under direction of nursing and medical staff.		660143
PHYSICAL AND CORRECTIVE THERAPY ASSISTANTS AND AIDES: Prepare patient and/or administer physical therapy treatment, such as massages, heat, light and sound treatment, and traction. Instruct, motivate, and assist patients with learning and improving functional activities. Normally work under the direction of a Physical or Corrective Therapist.		660173
OCCUPATIONAL THERAPY ASSISTANTS AND AIDES: Assist Occupational Therapists in administering medically oriented occupational program to assist in rehabilitating patients in hospitals and similar institutions.		660213
AMBULANCE DRIVERS AND ATTENDANTS, EXCEPT EMERGENCY MEDICAL TECHNICIANS: Drive ambulance or assist ambulance driver in transporting sick, injured or convalescent persons. Assist in lifting patients and rendering first aid. May be required to have Red Cross first aid training certificate.		660233

EMPLOYMENT BY OCCUPATION

Occupations	Number of Employees	Office Code
PHARMACY ASSISTANTS (PHARMACY HELPERS; ETC.): Mix pharmaceutical preparations under direction of Pharmacist. Duties include issuing medicine, labeling and storing supplies, and cleaning equipment and work areas.		660263
ALL OTHER HEALTH SERVICE WORKERS: Include all other workers in this category not classified separately above.		660993
FOOD AND BEVERAGE PREPARATION AND SERVICE OCCUPATIONS: Include occupations concerned with preparing and serving food and beverages. Include occupations such as Cooks, Cafeteria Workers, Waiters and Waitresses, and Kitchen Workers.		
WAITERS AND WAITRESSES: Serve food and/or beverages to patrons at tables. Usually take order from patron and make out check. May set table with linen and silverware and take payment from patron. May serve customers at counter as well as table. *Exclude* workers who only work at counters.		650063
FOOD SERVERS, OUTSIDE (HOSPITAL TRAY-SERVICE WORKERS; ETC.): Serve food to patrons outside of a restaurant environment, such as to patrons in hotels, hospital rooms, or cars. Workers who serve food in typical restaurant environments should be reported as Waiters and Waitresses. *Exclude* Food Venders.		650113
DINING ROOM AND CAFETERIA ATTENDANTS, AND BARTENDER HELPERS: Perform any combination of the following duties to facilitate food service: Carry dirty dishes from dining room to kitchen. Replace soiled table linens and set tables with silverware and glassware. Replenish supply of clean linens, silverware, glassware, and dishes. Supply services bar with food, such as soups, salads, and desserts. Serve ice water and butter to patrons. May also serve coffee to patrons. May wash tables.		650143
COUNTER ATTENDANTS- LUNCHROOM, COFFEE SHOP, OR CAFETERIA: Serve food to diners at counter or from a steam table. Counter Attendants who also wait tables should be reported under Waiters and Waitresses.		650173
BAKERS, BREAD AND PASTRY: Mix and bake ingredients according to recipes to produce breads, pastries, and other baked goods. Goods are produced in smaller quantities for consumption on premises or for sale as specialty baked goods.		650213
BUTCHERS AND MEAT CUTTERS: Cut, trim, and prepare carcasses and consumer-sized portions of meat for sale or for use in food service establishments. *Exclude* butchers working in slaughtering and meat packing or prepared meat establishments.		650233
COOKS, INSTITUTION OR CAFETERIA: Prepare and cook family-style meals for institutions, such as schools, hospitals, or cafeterias. Usually prepare meals in large quantities rather than to individual order. May cook for employees in office building or other large facility.		650283
COOKS, SHORT ORDER: Prepare and cook to order a variety of foods that require only a short preparation time. May take order from customers and serve patrons at counters or tables. *Exclude* Cooks, Specialty Fast Foods.		650353
FOOD PREPARATION WORKERS (KITCHEN HELPERS; ETC.): Perform a variety of food preparation duties, such as preparing cold foods and maintaining and cleaning kitchen work areas, equipment, and utensils. Perform simple tasks such as preparing shellfish or slicing meat. May brew coffee, tea, or chocolate or prepare sandwiches. Work in such places as a restaurant kitchen or delicatessen.		650383
ALL OTHER FOOD SERVICE WORKERS: Include all other workers in this category not classified separately above.		650993

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EMPLOYMENT BY OCCUPATION

Occupations	Number of Employees	Office Code
CLEANING AND BUILDING SERVICE OCCUPATIONS, EXCEPT PRIVATE HOUSEHOLDS: Include workers who clean and maintain the upkeep of hotels, apartments, buildings, and similar establishments. In commercial establishments these workers may have additional duties such as tending furnaces, routine maintenance, or cleaning sidewalks. Both heavy and light cleaning workers are included. Building Service Workers also operate elevators or perform pest control. Workers whose *primary* duty is repair should be reported in the repair section in the last Division.		
MAIDS AND HOUSEKEEPING CLEANERS: Perform any combination of tasks to maintain commercial establishments, such as hotels, restaurants and hospitals, in a clean and orderly manner. Duties include making beds, replenishing linens, cleaning rooms and halls, and arranging furniture.		670023
JANITORS AND CLEANERS, EXCEPT MAIDS AND HOUSEKEEPING CLEANERS: Keep building in clean and orderly condition. Perform heavy cleaning duties, such as operating motor-driven cleaning equipment, mopping floors, washing walls and glass, and removing rubbish. May have additional duties and responsibilities, such as tending furnace and boiler, performing routine maintenance activities, notifying management of need for repairs and additions, and cleaning snow or debris from sidewalk. *Exclude* Maids and Housekeepers.		670053
40 **ELEVATOR OPERATORS:** Operate elevator to transport passengers and/or freight between floors of such buildings as offices, apartment houses, hotels, and stores.		670113
ALL OTHER CLEANING AND BUILDING SERVICE WORKERS, EXCEPT PRIVATE HOUSEHOLDS: Include all other workers in this category not classified separately above.		670993
● *OTHER SERVICE OCCUPATIONS*		
BARBERS: Provide customers with barbering services, including cutting, trimming, shampooing, and styling hair. Also give shaves and shape contour of hair line. May sell lotions, tonics, and other cosmetic supplies.		680023
HAIRDRESSERS, HAIRSTYLISTS, AND COSMETOLOGISTS: Provide beauty services for customers, such as suggesting hair styles, cutting and treating hair and scalp, applying make-up, dressing wigs, and electrolysis. *Exclude* Shampooers, Manicurists, and Beauty School Instructors		680053
SOCIAL WELFARE SERVICE AIDES (HOMEMAKERS; ETC.): Perform a variety of tasks at places of residence. Duties include keeping house, advising families having problems with such things as nutrition, health, cleanliness and household utilities. *Exclude* Nurses' Aides and Home Health Aides		680353
CHILD CARE WORKERS (CHILD CARE ATTENDANTS; ETC.): Attend children at school, businesses, and institutions performing a variety of tasks, such as dressing, feeding, bathing, and overseeing play. *Exclude* Preschool Teachers and Teacher Aides.		680383
ALL OTHER SERVICE WORKERS (MANICURISTS; ETC.): Include all other workers in this category not classified separately above. *Please identify in Section V (at the end of this form) all occupations included in this category that are numerically important and require substantial training, or are emerging due to technological changes in your industry.*		699993

EMPLOYMENT BY OCCUPATION

Occupations	Number of Employees	Office Co
AGRICULTURAL, FORESTRY, FISHING, AND RELATED OCCUPATIONS		
Include in this Division workers concerned with agricultural production, forestry, and fishing. Also included in this division are agriculture related workers such as animal caretakers and groundskeepers..... *Organization of this section* - Occupations in this section are ordered functionally as follows: Supervising; forestry; and a residual 'All Other' category that covers fishing and agricultural production .....*Special Instructions* - Machine and manual occupations that are found in, but not unique to, the forestry industry are found in the next Division.		
GARDENERS AND GROUNDSKEEPERS, EXCEPT FARM (YARD WORKERS; LANDSCAPE LABORERS; LAWN MOWERS; ETC.): Maintain grounds of public or private property using hand/power tools or equipment. May perform any combination of tasks, such as mowing, trimming, planting, watering, fertilizing, digging, raking, and sweeping. Additional duties may include minimal care and upkeep of buildings and equipment. May plan and execute small scale landscaping operations. May dig and prepare graves. *Exclude* Groundskeepers who disseminate information to the public and patrol public parks to enforce rules and regulations and to detect fires.		790143
ALL OTHER AGRICULTURAL, FORESTRY, FISHING, AND RELATED WORKERS: Include all other workers in this category not classified separately above. *Please identify in Section V (at the end of this form) all occupations included in this category that are numerically important and require substantial training, or are emerging due to technological changes in your industry.*		799993
PRODUCTION, CONSTRUCTION, OPERATING, MAINTENANCE, AND MATERIAL HANDLING OCCUPATIONS		
Include in this Division all skilled, semiskilled, and unskilled workers performing machine and manual tasks involving production, construction, operating, maintenance, repair, and material handling operations..... *Organization of this section* - Occupations in this section are ordered functionally as follows: Supervising; inspecting; repair; construction; precision production; machine setting, operating, and tending; assembling and hand working; plant and system operation; transportation and material moving equipment operating; and helpers, laboring, and manual material moving..... *Special Instructions* - Because of the differing experience and training required, production workers performing precision tasks (whether hand or machine) are reported separately. In addition, the remaining production worker groups are divided between machine and manual operations. The use of hand held power tools is considered a manual operation for the purpose of this survey.		
FIRST LINE SUPERVISORS AND MANAGER/SUPERVISORS- MECHANICS, INSTALLERS, AND REPAIRERS: Directly supervise and coordinate activities of mechanics, repairers and installers. May also supervise helpers assigned to these workers. Manager/Supervisors are generally found in smaller establishments where they perform both supervisory and management functions, such as accounting, marketing, and personnel work. In addition, Manager/Supervisors may also engage, in part, in the same repair work as the workers they supervise. *Exclude* work leaders who spend 20% or more of their time at tasks similar to those of employees under their supervision and report them in the occupations which are most closely related to their specific work duties.		810023
FIRST LINE SUPERVISORS AND MANAGER/SUPERVISORS- CONSTRUCTION TRADES AND EXTRACTIVE WORKERS: Directly supervise and coordinate activities of construction or extractive workers. Manager/Supervisors are generally found in smaller establishments where they perform both supervisory and management functions, such as accounting, marketing, and personnel work. In addition, Manager/Supervisors may also engage, in part, in the same construction work as the workers they supervise. *Exclude* work leaders who spend 20% or more of their time at tasks similar to those of employees under their supervision and report them in the occupations which are most closely related to their specific work duties.		810053

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EMPLOYMENT BY OCCUPATION

Occupations	Number of Employees	Office Code
ALL OTHER FIRST LINE SUPERVISORS AND MANAGER/SUPERVISORS-PRODUCTION, CONSTRUCTION, MAINTENANCE AND RELATED: Include all other workers in this category not classified separately above. *Please identify in Section V (at the end of this form) all occupations included in this category that are numerically important and require substantial training, or are emerging due to technological changes in your industry*		**810993**
INSPECTORS AND RELATED OCCUPATIONS: Include in this category workers related to this Division who inspect, test, grade, sort, or perform related tasks such as samplers *Exclude* 1) *Management related* inspectors who enforce government or company regulations. 2) *Clerical* (recordkeeping) samplers and weighers and 3) *Agriculture* product graders and sorters - i.e. grading and sorting unprocessed food or other agricultural products		**830003**
MECHANICS, INSTALLERS, AND REPAIRERS (INCLUDE REPAIR TECHNICIANS; EXCLUDE MACHINE SETTERS): Include workers who repair, maintain and adjust motor vehicles, equipment, machines and tools including such work as machinery repair, auto repair and communications equipment repair. Workers may also install as well as repair equipment and machinery. Repair work may be performed on or off premises. Workers who only perform routine setting and adjusting of production machinery are *excluded* and should be reported in the later Machine Setter/Operative group. Also included are workers who do routine machinery maintenance such as oiling, changing parts (blades, rollers, etc.) and filling reservoirs.		
MACHINERY MAINTENANCE MECHANICS (POWERPLANT MECHANICS; PUMP MECHANICS; ETC.; EXCLUDE MILLWRIGHTS, MACHINE SETTERS, AND MOBILE EQUIPMENT MECHANICS): Repair and maintain the operating condition of industrial production and processing machinery, printing machinery, and refinery and pipeline distribution systems. Duties include repairing in accordance with diagrams, operating manuals, or manufacturer's specifications, machinery and mechanical equipment, such as pumps, conveyor systems, and motors *Exclude* Millwrights and Mobile Heavy Equipment Mechanics, such as crane, bulldozer, grader, or conveyor mechanics.		**851103**
MAINTENANCE REPAIRERS, GENERAL UTILITY: Perform work involving two or more maintenance skills to keep the machines, mechanical equipment, and/or structure of an establishment in repair. This occupation is generally found in a small establishment where specialization in maintenance work is impractical. Duties may involve pipefitting, boilermaking, insulating, welding, machining, machine and equipment repairing, carpentry, and electrical work, as well as planning and laying out of work relating to repairs; repairing electrical and/or mechanical equipment; installing, aligning and balancing new equipment; and repairing buildings, floors, or stairs.		**851323**
HEATING, AIR CONDITIONING, AND REFRIGERATION MECHANICS AND INSTALLERS (FURNACE INSTALLERS; AIR CONDITIONING MECHANICS; OIL BURNER REPAIRERS; ETC.): Install and repair heating, air conditioning, and refrigerating systems. Duties include installation and repair of oil burners, hot-air furnaces, heating stoves, and similar equipment in homes and commercial establishments using hand and pipe threading tools. Also included are the installation and repair of cooling and central air conditioning systems.		**859023**
ELECTROMEDICAL AND BIOMEDICAL EQUIPMENT REPAIRERS: Test, adjust, and repair electromedical equipment using hand tools and meters		**859083**
MENDERS- GARMENTS, LINENS, AND RELATED: Repair defects, such as tears and holes, in garments, linens, curtains, and draperies and rebind cleaned blankets by hand or by operating a sewing machine.		**859563**
ALL OTHER MECHANICS, INSTALLERS, AND REPAIRERS: Include all other workers in this category not classified separately above. *Please identify in Section V (at the end of this form) all occupations included in this category that are numerically important and require substantial training, or are emerging due to technological changes in your industry.*		**859993**

EMPLOYMENT BY OCCUPATION

Occupations	Number of Employees	Office Code
CONSTRUCTION TRADES AND EXTRACTIVE OCCUPATIONS, EXCEPT MATERIAL MOVING (EXCLUDE HELPERS AND LABORERS): Include in this group workers constructing, altering, and maintaining buildings, other structures, bridges, pipelines, and similar projects. The construction/maintenance work performed by these workers is found in many establishments, although the majority of these workers work for construction firms. Also include extractive workers, such as Blasters, Oil Well Drillers, and Mining Operatives. *Exclude* helpers and laborers.		
CARPENTERS: Perform the carpentry duties necessary to make or repair wooden structures, structural members, and fixtures and equipment using carpentry tools and woodworking machines. *Exclude* Cabinetmakers and Bench Carpenters.		871023
ELECTRICIANS: Install, maintain, and repair wiring, electrical equipment, and fixtures. Insure that work is in accordance with relevant codes. May read blueprints. Include Protective Signal Installers and Repairers and Street Light Servicers.		872023
PAINTERS AND PAPERHANGERS, CONSTRUCTION AND MAINTENANCE: *Painters*: Paint walls, equipment, buildings, bridges, and other structural surfaces using brushes, rollers, and spray guns. May mix colors or oils to obtain desired color or consistency. *Paperhangers*: Cover interior walls and ceilings of rooms with decorative wallpaper or fabric.		874023
PLUMBERS, PIPEFITTERS, AND STEAMFITTERS: Assemble, install, alter and repair pipe systems (metal, plastic, ceramic, composition, etc.) that carry water, steam, air, or other liquids or gases.		875023
ALL OTHER CONSTRUCTION TRADES WORKERS (MASONS; GLAZIERS; ETC.): Include all other workers in this category not classified separately above.		878993
PRECISION PRODUCTION OCCUPATIONS (EXCLUDE PRECISION ASSEMBLERS AND REPORT THEM IN THE HANDWORKING SECTION): Include persons whose work requires a high degree of precision and usually an ability to interpret detailed specifications and instructions and to use independent judgement and knowledge gained through experience and training. Precision work may be accomplished either by hand or hand-held tools (or) by using various types of machinery. Normally substantial training, either classroom or on the job, is required to reach the 'journey' level. In most cases, training of six months to several years or more is required. Precision assembling occupations are found in the Hand Working (including assemblers and fabricators) section found later in the form. Precision Inspectors and Testers should be reported in the earlier Inspecting category. The occupations in this category are ordered according to material: metal, wood, textile, printing, food and a residual 'all other' category.		
MACHINISTS: Set up and operate machine tools and fit and assemble parts to make or repair metal parts, mechanisms, tools or machines of an establishment applying knowledge of mechanics, shop mathematics, metal properties, and layout machining procedures. Study specifications, such as blueprints, sketch, or description of part to be replaced, and plan sequence of operations.		891083
PRECISION OPTICAL GOODS WORKERS (PRECISION LENS POLISHERS; ETC.): Cut, grind, and polish eyeglasses, contact lenses, or other precision optical elements according to prescription or other specifications. Assemble and mount lenses into frames and process other optical elements according to specifications. These occupations usually involve the use of precision machines and instruments. Include such occupations as Precision Lens Polishers or Grinders, Centerer-Edgers and Lens Mounters. *Exclude* rough grinding of optical elements.		899173

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EMPLOYMENT BY OCCUPATION

Occupations	Number of Employees	Office Code
PRECISION DENTAL LABORATORY TECHNICIANS: Perform precision tasks, such as construction and repair of full or partial dentures or dental appliances or apparatus, following prescriptions or specifications of Dentists or Orthodontists. May also provide analytical and diagnostic services. Include such workers as Dental Ceramists, Crown and Bridge Technicians, and Orthodontic Technicians. *Exclude* Assistants, Bite-Block Makers, Opaquers, and Denture and Coiler Packers.		899213
MEDICAL APPLIANCE MAKERS (ORTHOTICS TECHNICIANS; PROSTHETICS TECHNICIANS; ARCH SUPPORT TECHNICIANS; ETC.): Perform precision tasks such as constructing, fitting, maintaining, and repairing medical supportive devices (braces, artificial limbs, arch supports, and other surgical and medical appliances) following the prescriptions and specifications of Orthotists, Prosthetists, or Podiatrists. May instruct patients in the use of the device.		899233
ALL OTHER PRECISION WORKERS (CABINETMAKERS; SHEETMETAL WORKERS; ETC.): Include all other workers in this category not classified separately above. *Please identify in Section V (at the end of this form) all occupations included in this category that are numerically important and require substantial training, or are emerging due to technological changes in your industry.*		899993
MACHINE SETTERS, SET-UP OPERATORS, OPERATORS, AND TENDERS: Include in this group workers who set up, operate, or tend equipment or machinery (usually large production machinery). In the following occupational categories workers who set up or set up & operate machines are grouped separately from workers who operate or tend machines.....The occupations in this section are organized according to the material being processed and ordered as follows: metal & plastic (working, fabricating, and processing), wood, printing and related, textile, and a residual (other) category. Occupations that do not *primarily* involve metal and plastic working machines, wood working machines, printing and related machines, or textile machines should be reported in the residual (other) category.....NOTE: *Excluded* from this category are 1) Transportation and Material Moving occupations; 2) Handworking occupations - workers using hand or hand-held power tools; and 3) Plant and System Operators. The appropriate groups for these workers follow this section.		
SEWING MACHINE OPERATORS, NON-GARMENT (OVEREDGE SEWERS; ETC.): Operate or tend sewing machines to join together, reinforce, decorate, or perform related sewing operations in the manufacture of nongarment products, such as upholstery, draperies, linens, carpets, and mattresses.		927213
LAUNDRY AND DRYCLEANING MACHINE OPERATORS AND TENDERS, EXCEPT PRESSING: Operate or tend washing or drycleaning machines to clean or dryclean commercial, industrial, or household articles, such as suede, leather, and cloth garments, furs, blankets, draperies, fine linens, rugs, and carpets.		927263
PRESSING MACHINE OPERATORS AND TENDERS- TEXTILE, GARMENT, AND RELATED MATERIALS (GARMENT MANGLE OPERATORS; ETC.): Operate or tend pressing machines, such as hot-head pressing, steam pressing, automatic pressing, ironing, plunger pressing, and hydraulic pressing machines, to press and shape articles, such as leather, fur, and cloth garments, or drapes, slipcovers, handkerchiefs, and millinery. *Exclude* delicate fabric (Precision) Pressers.		927283
BOILER OPERATORS AND TENDERS, LOW PRESSURE (LOW PRESSURE FIRERS; ETC.): Operate or tend low pressure stationary steam boilers and auxiliary steam equipment, such as pumps, compressors and air conditioning equipment, to supply steam heat for office buildings, apartment houses, or industrial establishments; to maintain steam at specified pressure aboard marine vessels; or to generate and supply compressed air for operation of pneumatic tools, hoists, and air lances.		929263
ALL OTHER MACHINE SETTERS AND SET-UP OPERATORS: Include all other workers in this category not classified separately above. *Please identify in Section V (at the end of this form) all occupations included in this category that are numerically important and require substantial training, or are emerging due to technological changes in your industry.*		929973

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EMPLOYMENT BY OCCUPATION

Occupations	Number of Employees	Office Code
ALL OTHER MACHINE OPERATORS AND TENDERS: Include all other workers in this category not classified separately above.		929983
HAND WORKING OCCUPATIONS, INCLUDING ASSEMBLERS AND FABRICATORS: Include workers who perform hand assembling, fabricating, finishing or other handwork. This category includes a wide variety of handwork in addition to assembling, such as welding, cutting, molding, painting, grinding and sewing. Although precision assembling is included in this category, workers performing other types of *precision* handwork such as patternmaking, precision molding, layout, tailoring, design painting and butchering are *excluded* and should be reported in the earlier 'Precision' category.		
SEWERS, HAND (HAND STITCHERS; ETC.): Sew, join, reinforce, or finish, usually with needle and thread, any of a wide variety of manufactured items, such as shoes, hats, umbrellas, rugs, baseballs, and hosiery. Include such occupations as Weavers, Stitchers, and Finishers. Hand Sewers who repair articles should be reported with Menders.		939233
ALL OTHER HAND WORKERS (PRESSERS, HAND; ETC.): Include all other workers in this category not classified separately above. *Please identify in Section V (at the end of this form) all occupations included in this category that are numerically important and require substantial training, or are emerging due to technological changes in your industry.*		939993
PLANT AND SYSTEM OCCUPATIONS: Include workers who control or operate systems of machines or entire processes through use of control panels or centralized controls. Plant and System Operators control such systems as chemical, petroleum, or water treatment systems.		
STATIONARY ENGINEERS (OPERATING ENGINEERS-STATIONARY ENGINES; ETC.): Operate and maintain stationary engines and mechanical equipment to provide utilities for a businesse's buildings or industrial processes. Operate equipment such as steam engines, generators, motors, turbines, and steam boilers.		950323
ALL OTHER PLANT AND SYSTEM OPERATORS: Include all other workers in this category not classified separately above. *Please identify in Section V (at the end of this form) all occupations included in this category that are numerically important and require substantial training, or are emerging due to technological changes in your industry.*		950993
TRANSPORTATION AND MATERIAL MOVING MACHINE AND VEHICLE OPERATORS (EXCLUDE AMBULANCE DRIVERS - SEE SERVICE DIVISION): Include in this group workers who operate or control vehicles used to transport people or materials. Also included are transportation related workers such as Bridge Tenders, Service Station Attendants, and Parking Lot Attendants. Material moving also includes operation of equipment such as conveyors, pumps, cranes, and hoists.		
TRANSPORTATION EQUIPMENT OPERATORS		
TRUCK DRIVERS, LIGHT- INCLUDE DELIVERY AND ROUTE WORKERS: Drive truck with a capacity under 3 tons. May drive light truck to deliver or pick up merchandise and load and unload truck. Workers who sell as well as deliver merchandise should be reported with Driver/Sales Workers.		971053
ALL OTHER MOTOR VEHICLE OPERATORS: Include all other workers in this category not classified separately above.		971993
ALL OTHER TRANSPORTATION AND RELATED WORKERS: Include all other workers in this category not classified separately above.		978993

EMPLOYMENT BY OCCUPATION

Occupations	Number of Employees	Office Code
● *MATERIAL MOVING EQUIPMENT OPERATORS*		
INDUSTRIAL TRUCK AND TRACTOR OPERATORS (FRONT END LOADER OPERATORS; ELECTRIC TRUCK OPERATORS; FORKLIFT TRUCK OPERATORS; ETC.): Operate gasoline or electric powered industrial trucks or tractors equipped with fork lift, elevated platform, or trailer hitch to move materials in an establishment, warehouse, storage yard, factory, or at a construction site. *Exclude* Logging Tractor Operators		979473
ALL OTHER MATERIAL MOVING EQUIPMENT OPERATORS: Include all other workers in this category not classified separately above.		979993
HELPERS AND RELATED WORKERS		
HELPERS, LABORERS, AND MATERIAL MOVERS, HAND- EXCLUDE AGRICULTURE AND FORESTRY LABORERS: Include workers performing *non machine* tasks generally of a routine nature. These workers help the production, construction, operating, and maintenance workers covered in the earlier sections. Although they do not operate or tend the machinery or equipment directly, these workers assist in the work of the establishment by machine feeding and offbearing, moving materials (manually), or loading and unloading. They may also clean and wash vehicles and equipment. Handworkers (see earlier section) are distinguished from the workers in this group because they are involved directly in the making of a product.		980003

OVERALL TOTAL OF EMPLOYMENT
(Sum of non-shaded boxes)
(This overall total employment should agree with Item D on page 1.)

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PLEASE CONTINUE TO
SECTION V

SECTION V. – "ALL OTHER" CATEGORIES

Please use the space below to identify workers reported in any "All Other" category who are in occupations that are numerically important, require substantial training, or are emerging due to technological changes in your industry

Office Code of "All Other" Category in which Workers are Reported	Job Title and Short Description of Job Duties	Number of Employees	For Office Use Only

OFFICE USE ONLY	FIPS State Code	Schedule Number	Survey Code	SIC	Unit Total Employment	Auxiliary Unit Code	Reviewed By	Date